# Lectures

ON SOME

IMPORTANT POINTS IN CONNEXION WITH THE

# SURGERY OF THE URINARY ORGANS.

*Delivered at the Royal College of Surgeons,*

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## LECTURE VI.

*The Results attained by Lithotomy and Lithotrity in Great Britain during the present Century; with an Analysis of more than 800 Cases by the Author, presented therewith.*

[THE lecturer commenced by observing that before entering upon the question of results of treatment there were two considerations to be dealt with, demanded by the great fact of modern practice—namely, that lithotrity is almost universally applicable to the cases of adult calculous patients. He continued]:—

The first consideration is that it is essential to determine, and if possible to define, what is to be understood henceforward by the term "a stone in the bladder." The second is that, in estimating the value of treatment for calculous cases, the result of a single operation for stone can no longer be regarded, as it invariably was until a few years ago, as a fact of the highest importance, and as synonymous, or almost so, with the history of a calculous case; since such an operation may now be only a single incident, and not always a very considerable one, which may be repeated, sometimes on several occasions, in the course of such a history. The importance of these statements will appear as we proceed. We will first consider what is in future to be regarded as a definition of the term "stone in the bladder."

When a calculus was removable only by lithotomy—a period, moreover, which was anterior to the discovery of anæsthesia—the magnitude of the operation almost invariably prevented the surgeon from proposing it, or the patient from accepting it, until painful symptoms had been endured for a considerable period of time, and the stone was at any rate no longer small. Indeed, among the operators of the eighteenth century it was considered not always desirable to attack a stone when first discovered; but rather that, if small, it should, to use a term then in vogue, be allowed to "ripen;" in other words, to increase in size somewhat before the operation was performed. Again, it was very rare to operate on the same individual twice. A man who had once passed through the ordeal of a cutting operation was, if he had the misfortune to form another stone, not lightly advised by a cautious surgeon to undergo a repetition of the process, and was himself naturally reluctant to submit to it. Now and then an individual was operated on twice; but it was a rare occurrence. One or two histories are on record of fortunate patients who survived a third operation; but such an event was one of the extremest rarity. The result of these conditions was that a great number of calculous patients died of their malady, relieved, it is true, for a time by medicines, but not subjected to any operation. I am quite sure I am within the limits of truth if I say that, regarding the class of elderly calculous patients, probably not more than one in fifty during the last century was submitted to operation. The stone, although present, was often not suspected to be so, much less was it sought for; and its symptoms were mostly attributed to "strangury," a term which formerly covered several forms of urinary disease, not then distinguished. If a search were made, it was often fruitless, because the instruments were faulty, and the experience, as well as the tact which comes from it, were small. In the country districts there were very few men who could or would undertake the operation; and the conditions of locomotion at the period referred to rendered a journey well-nigh impossible for most of the suffering patients. Hence it was that the itinerant lithotomist supplied a pressing want in times gone by. Then the dread of the operation itself and of its dangers deterred a majority of those sufferers who were within reach of aid from invoking it. The result of these various circumstances was that a very large proportion of calculous patients were children, who, unable themselves to exercise any will in the matter, and being known by their relatives to incur comparatively less risk than their seniors, were without difficulty placed under the care of the operator.

You will see, then, that in all the past experience of calculous disease, anterior to and terminating with the year 1836 or thereabout, an operation for the stone was necessarily a very important fact; and was almost invariably the culminating point of the long history of suffering in the individual affected. The event was looked forward to as demanding great courage on the part of an adult patient to confront not only the torture of the operation but the chance of a fatal result. Hence a list of the several stone operations which a surgeon had performed was equally a list of all his stone patients and of their entire histories; and the number corresponded with the number of his cures and of his failures. And when we come to analyse the work of the old masters you will see how the remarks which have been made respecting the vast importance to an adult patient of an operation are warranted from the fact that almost all their cases were those of children. And this, too, explains the large proportion of recoveries which some of their lithotomy records present. Indeed, compared with our experience of to-day, an operation for stone was rare indeed among elderly men—not that stone was less frequent then, but that, on grounds already referred to, it did not come to the operating table. Now, in order not to expend time unnecessarily, I shall adduce but one illustration of this fact, taking it from the figures of our great English master, Cheselden. The well-known record which he published at the end of his career amounted to 213 cases of operation, of which 135 were under ten years of age, with three deaths; only 14 were above fifty years of age, and of these 6 died. By way of marking the contrast which the records of to-day furnish, the cabinet of my own calculi there contains the cases of 595 male patients of that age alone, out of a total of 812, or more than forty times his number.

But the great fact of to-day which marks the difference between this age and the past is that we are able now to remove a stone even of considerable size from the bladder of the elderly adult with a risk to life which, in most instances, is very small, and which is serious only in cases of exceptional character. The consequence is that a moderate-sized calculus is generally disposed of as soon as it is discovered, because uncontrollable dread of a dangerous operation is no longer an occasion for delay. At the same time it is equally the aim of the surgeon and the interest of the patient that a calculus should be discovered as early as possible in order that it should be removed when small. It follows further, and this is a matter of the highest importance, that if the calculus recurs the operation is easily repeated, whether it be a new product of uric acid or of oxalate of lime which has recently descended from the kidneys, or a renewed accumulation deposited from decomposing urine in an incompetent bladder which has long been emptied by the catheter. In either case lithotrity is available time after time, if need be, to afford relief, and a patient's life, which formerly depended on the result of a single formidable cutting operation, is now indefinitely prolonged for many years on easy terms by an occasional recurrence to the lithotrite. I repeat, therefore, the statement that the record of a single calculous operation and the history of a calculous patient are now very far from being synonymous terms. Hence I desire to place on record the following deduction as most important in the interest of accuracy in reporting and in observing results—viz., that a computation of the results of lithotrity is not possible by the numerical record of cases only, and by the bare exhibition of a list of so-called "cures" and deaths; but that the entire record of the calculous patient's history—its commencement, the number of operations, the quantities of débris removed, and the incidents of the subsequent history, so far as they can be obtained—is essential in order to furnish evidence in regard of the treatment employed, and to render the case useful as a contribution to surgical experience. And it follows also that, in speaking of "a stone"—which no longer necessarily means a considerable product of accretion during years, such as that for which a patient was formerly cut,—a certain understanding

ought to exist among surgeons in order to indicate some limit to the meaning of the word. At any rate, it is now necessary in all cases that the composition and weight should be recorded, while it might be convenient to apply the terms "stone" or "calculus" only to such aggregations of material as attain a certain amount of size or weight. I think, however, it will be generally agreed that when a bladder is found for the first time to contain a calculus, whether urate, oxalate, or phosphate, which is too large to be expelled by the natural efforts, the crushing and removal of it (together with others, if such be present), so as to empty the bladder, necessarily constitute an "operation for the stone," whether it (or they) be large or small. If a small stone only is present the patient is fortunate in having it detected, because it would inevitably have become larger had it not been discovered, and the operation is then attended with a corresponding increase of risk. Some patients will produce with great frequency a small acid calculus so that every three months or so during several years a small pisiform body, usually uric acid, drops into the bladder, and if too large to be expelled remains there. Such a patient may most advantageously avail himself of lithotrity every two or three years during a considerable portion of adult life. Nevertheless be it remarked that in five cases out of six he may, by well-chosen diet, speedily overcome the tendency to produce superfluous uric acid, and cease to form these calculi. But there is another type of patient who rapidly forms calculus, more rapidly even than the preceding. I refer to the patient who passes all his urine by catheter and is the subject of phosphatic urine. In a certain proportion, happily small, of these cases a healthy acid condition of the urine is not attainable, and small phosphatic calculi are formed with surprising rapidity. I have had several patients under my care whose bladders require clearing by means of the lithotrite and aspirator as often as once or twice a year. On the very first occasion, perhaps, a phosphatic calculus of considerable size has been removed, and again, in two or three years another, and these are fair examples of "stone," regarding the sense in which it has been customary formerly to employ the word. But at length the chronic condition described above is reached; smaller calculi are rapidly produced, and now the result of each operation has no right to be so regarded, if we maintain in future the idea hitherto associated with the term "stone." Hence I have in practice termed these small and recurring bodies "concretions," in order to draw a needful distinction between these and the large primary formations. I have removed at least 200 or 300 of these small bodies without placing them in my list of stone cases. But there is no recognised rule to this effect, and it is confessedly not easy to construct one, and I have long felt how open the door is to error unless one is careful to avoid misrepresentation in regard to this matter. That such small concretions have been made to do duty in augmenting the figures which represent cases of stone I have good reason to know. By way of suggesting a limit I think that after the first phosphatic calculus has been removed from a patient, no subsequent phosphatic formation of the kind described weighing less than about a drachm should be permitted to rank as a second stone, but should be described as a concretion.

It is strictly in accordance with the plan thus advocated that I have treated from the very first all the cases of my own, which are now exhibited in the cabinet before you. It consists entirely of my own cases, and of all those cases without exception. Each number in the catalogue, from No. 1 onwards, denotes not a mere operation, but a separate individual, who has been operated on either by lithotomy or by lithotrity; so many numbers, so many individuals. To each number is added his name, age, and a record of the one or more operations he has submitted to, with the result; and as much of the subsequent history as, in a good many cases, I have been able to obtain. I shall merely add now that the number of individuals is 716, and that the total cases of operation, embracing both lithotomy and lithotrity, are 812 in number. For I have to submit for your consideration some very interesting matter in connexion with the chief statistical records which precede my own in date, for the purpose of estimating the results of operations for stone, not merely by lithotomy alone, but also during that transition period which intervened between what may be called the two epochs, respectively, of lithotomy and lithotrity; for it will appear, if we recall the brief retrospective sketch given at the last lecture, of stone-operating during the present century, that its history is naturally divided into three chief stages.

I. The era of lithotomy pure and simple, when the operation was applied to cases of every description.

II. The era in which lithotrity, having appeared, was adopted for a certain proportion of patients for whom the crushing was believed to be better than the cutting operation, which latter, on the other hand, was preferred on certain grounds for other patients; the relative numerical proportions submitted to the two procedures differing in the practice of different operators, but approximating more or less to equal moieties of patients to each method.

III. The era which appears now to be established, in which lithotrity may be regarded as applicable to all adult cases as the rule, the exceptions of any kind, besides the cases of children, being extremely few.

1. Now, as an example of the first period, or that of lithotomy pure and simple, I cannot adduce a more complete or trustworthy record than that which exists in the archives of the Norfolk and Norwich Hospital. During the first sixty years after the establishment of that hospital, where the best provincial experience in our country was to be found, 704 cases of all kinds and ages were operated on. The period referred to commenced about 1770, and ended about 1830.

Of the 704 cases, 35 were females, with two deaths; 343 were male cases under twenty years, with 27 deaths—a mortality of one in thirteen cases, or 8 per cent.; 326 were male adults, with sixty-four deaths—*a mortality of one in five cases, or 20 per cent.* Among these there were only 75 males over sixty years of age, among whom the deaths were 22; or one death in every 3½ cases, or 30 per cent.

2. We now consider the transition period, which may be roughly regarded as commencing about 1835, and ending between 1860 and 1870. The experience of two well-known operators will admirably illustrate the results attained during this epoch by the nearly equal division of adult male cases between lithotomy and lithotrity. I am happy in being able to present to you, first, the exact and complete experience of my old friend Dr. Keith of Aberdeen. He left it to me to utilise at such time and in such manner as I thought best. I have before casually referred to it in general terms, and I think I cannot now more worthily commemorate the work of that kind-hearted and excellent man, and most able surgeon, than to record it first fully here in our College. Keith operated chiefly between 1835 and 1868. He recorded all his facts with great care and attention to detail, his own manuscript notes being in my possession, and I have made the following analysis of them:—

Dr. Keith operated on a total of 304 cases at all ages. Of these four were females:—

| | | |
|---|---|---|
| Lithotomy ... ... ... | 2 | No death. |
| Lithotrity ... ... ... | 2 | |

Twenty-three were children:

| | | |
|---|---|---|
| Lithotomy ... ... ... | 19 | One death. |
| Lithotrity ... ... ... | 4 | |

27, leaving 277 adult males.

Of these 277 adult males, 161 were by lithotomy, with 38 deaths—1 case in 4¼, or 24 per cent. 116 were by lithotrity, with 7 deaths—1 case in 17, or 6 per cent. A total of 277 adult males, with 45 deaths—*1 case in 6¼, or 15 per cent.*

It will be in the recollection of most of us, that in the year 1865, Sir William Fergusson occupying the chair which I have now the honour to hold, presented the sum total of his experience to the College. His cases were fewer in number than those of the list just given, and they included a larger number of children.

Sir William Fergusson operated on a total of 271 cases at all ages. Of these, 52 were children, all lithotomy, with 2 deaths—1 case in 26, or 4 per cent., leaving 219 adult cases. Of these 219 adult males (comprising a few female cases, number unknown), 110 were by lithotomy, with 33 deaths—1 case in 3⅓, or 30 per cent. 109 were by lithotrity, with 12 deaths—1 case in 9, or 11 per cent. A total of 219 adult males, with 45 deaths—*or 1 case in 5, or 20 per cent.*

3. We now enter on the third epoch, or that in which lithotrity is the manifest rule of practice for the adult, and lithotomy the occasionally necessary exception. And this may be illustrated by my own cabinet of calculi, now before you, which was commenced shortly before 1860. A small early portion of it may perhaps be regarded as almost belonging to the period just passed by; but as at the outset I aimed at accomplishing as much as possible by lithotrity, it belongs in reality to the present epoch.

In this country lithotrity was, before 1860, as we have already seen, slowly becoming responsible for a large share of the work in the hands of the leading operators. In most parts of the kingdom, however, it was still employed only for exceptional cases. But I was strongly of opinion that it was not sufficiently appreciated in this country, and that it ought to be much more widely employed, and I persistently urged this view in my earliest writings.[1] Accordingly, among my first 200 cases of adult males, only forty-eight, or not quite one-fourth, were submitted to lithotomy. The proportion of cutting operations then gradually diminished henceforward to about one case in seven or eight. But in the end of 1878 I commenced to employ lithotrity at a single sitting, doing so extensively at the commencement of 1879. Since that date I have performed 196 cases by this method solely—that is, during a term of five years and a half, and only fifteen lithotomies—in all 211 cases, the mean age of the entire number being upwards of sixty years. But, taking my last 125 operations up to the present date on adult calculous patients, only four have been treated by cutting; all the others—viz., 121—were cases of lithotrity at a single sitting.

The total result of all my operations by carefully adapting the two procedures during a period of about the last twenty-five years, is as follows:—I have performed 812 operations on cases of all ages. The number of individuals on whom these operations have been performed is 716; some of the lithotrity patients having, of course, been operated on more than once, as will be stated hereafter. Of these cases 13 are adult females—10 by lithotomy with one death, and 3 by lithotrity; 15 are children—12 by lithotomy, with one death, and 3 by lithotrity. Then two operations (one a suprapubic lithotomy) for foreign bodies recently introduced, There remain 782 cases of operation on the adult male.

Of these 782 adult male cases, 110, or one-seventh of the entire number, were by lithotomy, with 39 deaths—one case in almost 3, or 35 per cent.; 672 were by lithotrity, with 43 deaths—one case in 15½, or under 6½ per cent. A total of 782 adult male cases, with 82 deaths—*one case in 9½, or 10½ per cent.* It is worthy of remark that among the adult males no fewer than 595 individuals were upwards of fifty years of age at the date of operation. I may now add that of the 716 individuals, 61 were operated on a second time, at various intervals, when a second stone of considerable size was developed; evidence existing, in long-continued absence of symptoms after the first operation, that the calculus was undoubtedly a new formation. Nine patients were operated on a third time, three patients a fourth time, and two as many as five times. It is worthy of note that each of the last named, the history of whose operations extends over a period of from twelve to fifteen years, are now living in comfort. One has passed more uric acid than any man I have seen, unless the patient, No. 62 in the series, from whom I removed four large calculi at four different periods in the course of about sixteen years. In both cases, each succeeding calculus of large size was a fresh deposit of uric acid, which each still continued to excrete largely, and not the mere accumulation of phosphates often so abundantly produced in a bladder incapable of emptying itself.

In analysing the results of the preceding table it is unnecessary to say that it is not possible to make any comparison as to the relative value of lithotomy and lithotrity. The position of the two operations towards each other is no longer one to invite comparison, but is that of complementary relation. Each accomplishes a part for which the other is less competent; nor, for the same reason, is it any longer possible to compare the results obtained by different operators in regard of employing either method, unless each operator is guided by the same principle in applying them, for it is obvious that the surgeon who adopts lithotrity for the majority of his cases—that is, for all but those which are the most difficult—necessarily obtains for his lithotomy only an unpromising residuum of exceptionally bad patients. And it is not to be forgotten, as Keith has remarked, that when an operator obtains reputation, he attracts the worst cases, and is compelled to deal with some of the most unhappy examples of the disease, unless he refuses such applicants, a course which I have never pursued. During my entire experience I have refused operation to six patients only, and in each instance because I thought the proceeding was either entirely hopeless, or impossible of performance. In one case I regretted my decision, for the patient lived long and suffered very severely. Hence the lithotomy of an operator who employs the knife only for the worst case in eight or ten cannot be compared with that of the surgeon who applies it to a large proportion of his cases, and therefore to a considerable number of healthy and promising patients with not very large stones, such as I have always treated by lithotrity.

It is the sum total of result obtained by employing the two procedures which is to be regarded as the measure of the surgeon's success. And I think I may say that a list of 782 cases in male adults, the mean of whose united ages exceeds sixty years, with 82 deaths, or one in 9½ cases, is a result which will be held to justify the selection and adaptation of the method to the case, which has been adopted throughout this series. I venture to say that it is a result which has not, certainly to my knowledge, hitherto been realised. Thus we saw that Cheselden, with patients of this age, lost 6 in 14, or one death in 2·3 cases; that the Norwich rate for male adults was one death in 5 cases; that Keith advanced to a rate of one death in 6½ of his adults, by both methods; that Fergusson, who had many bad cases sent him to King's College Hospital, lost one in 5 both methods. But while the sum total of my whole work has been one death in 9½, the result of the last five years, since I have adopted the one-sitting operation, has been still better—namely, one death in 12½ cases (211 elderly adults with 17 deaths), or 8 per cent. While, if I take my very last 125 cases up to this date, and already referred to as containing only 4 cases of lithotomy, I have to report 6 deaths only (of which 2 were from the cutting operation), making only 1 death in 20, or a rate of less than 5 per cent. And I further beg you to observe herewith, that the clinical notes made at the time in every case are presented to you here; each patient with his own proper name, together with the name of the attending medical man whom I met in consultation in each instance; and finally, the calculus of almost every patient is presented also. In every single case, therefore, in the whole collection, I am responsible for every fact stated, and offer with it absolute guarantees of its accuracy. No labour has been spared to pursue this system throughout, and my satisfaction is complete at being thus enabled to offer to the College, if they will do me the honour of accepting it, a faithful record of one man's practice during five-and-twenty years, as complete and as elaborately reported as it has been possible to make it.

[The lecturer then proceeded to show that calculus was far more frequent in elderly men than in children; that the symptoms in the former were often very slight and had been mostly overlooked, and that the great practical lesson from this fact was the necessity for discovering the calculus in its early stage, and for crushing it at once, when the risk of danger in doing so was practically almost nothing. He then discussed the conditions which should determine the choice of operation when the calculus was extremely large, and concluded that only for such should lithotomy be employed in the adult, as well as for most of the cases in children. He then continued:]

There is unquestionably a growing expression of dissatisfaction among surgeons, especially abroad, with the lateral operation for stones of unusually large size. I have for some time fully shared in that feeling. No incisions can be made in the region which belongs to that operation through which a calculus of three ounces or more can be extracted. Laceration, either avowedly made by instruments, or but half concealed under the name of gradual distension, invariably takes place, and that affecting very important structures, often to a large extent. Hence it is that the suprapubic operation has always invited consideration when the stone is exceptionally large; but the conditions sometimes met with, especially in corpulent subjects, have often presented peculiar difficulties and dangers, which indicated that if Scylla has been avoided above, Charybdis appears to be equally dangerous below. A modification of the operation, however, has recently taken place, if not originated, at least, first executed by Professor Petersen of Kiel, and described by him in 1880, which gives a new and improved position to the high operation. The improvement suggested consists in ensuring, to a degree not before attained, the raising of the bladder above the pubic symphysis, and the steadying it in that position during the operation. These objects are thus attained. The patient, lying on his back, and under the influence of an anæsthetic, the bladder is first distended with a weak solution of boracic acid, in quantity from ten to twelve ounces if possible,

[1] Vide THE LANCET, Jan. 21st, 1860.

which must depend on the condition of the organ. The penis is then firmly tied; nothing is better than an indiarubber tube for the purpose. Then a pear-shaped bag of indiarubber, tolerably stout, so as to retain that form, and capable of holding at least sixteen ounces of fluid, is folded longitudinally and introduced into the rectum. By the tube which forms its apex, and is supplied with a stopcock, water is forced in so as fully to distend the bag *in situ*. The outline of the bladder will now be traced above the pubic symphysis. The usual vertical incision is made, and dissection carried down to the bladder, with the usual precautions with which we are familiar. The ease and the certainty, however, which are ensured by the firm position of the bladder in this system, render it much superior to the old one. I have operated by the high operation twice only, and that before the introduction of the new method. Since that time I have met with no case which I have not been able to deal with satisfactorily by lithotrity at a single sitting, of which several examples are placed before you—the calculi weighing from one to nearly three ounces. The next case which offers for which the knife is required, I shall almost certainly submit to the high operation, with Petersen's modification. And the only reason why I have not yet performed it is that I have easily and successfully employed lithotrity in cases precisely similar to those for which the French surgeons are at present adopting Petersen's procedure.

# Lecture

ON THE

PRINCIPLES WHICH UNDERLIE THE

# CONSTRUCTION OF APPLIANCES FOR THE REMOVAL OF SICK AND WOUNDED.

BY ROBERT LAWSON,

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AT the request of the Committee of the Volunteer Medical Association I have undertaken to give a lecture on some subject within the range of those on which it is the object of their organisation to diffuse information; and it appears to me I cannot meet their wishes more advantageously, at the present time, than by pointing out the principles which underlie the construction of the appliances recommended for the removal of the wounded from the field of battle. Such appliances are of great use in moving sick and wounded elsewhere; but inasmuch as the transport of individuals who have sustained severe injuries in action is their most prominent and important employment, all their details require to be arranged with especial regard to the requirements of this service. Military operations in which this country is engaged are usually carried on at some point with which our communications are by sea; this requires that our transport vehicles should be constructed so as to permit of their being taken to pieces, and packed in the most compact form for stowage on board ship.

The first service to be rendered to a man disabled in action is to remove him to a position out of fire, where his injuries may be examined and the requisite treatment applied, to enable him to be sent on to the hospital where it is intended he should be retained for cure. To facilitate this a great variety of appliances have been recommended at various times, and employed more or less, as the materials for their construction were available. These are now pretty generally displaced by the field stretcher.

### *Field Stretcher.*

A field stretcher is essentially a hand litter, with the assistance of which two bearers can remove a wounded man, with the least exertion on their own part, and with the least injury to the patient, and it will approach perfection in proportion as it realises these ends. The stretcher usually consists of two side poles, to which a canvas or net bottom is attached on which the patient is laid, and there are cross pieces of wood or metal to prevent the poles coming together when raised from the ground. Legs or feet are frequently added, to keep the bottom off the ground when a sick or wounded man is on it. These elements have been combined in a great variety of ways, according to the views of individual constructors, some of which have proved pretty successful, while others can be considered little better than failures.

To obtain a clear idea of what is required in a field stretcher, it is necessary to analyse the motions of the bearers while carrying it. While they are standing still, with their feet together, a perpendicular line passing through the centre of gravity of their bodies will touch the ground between their feet, but, as soon as they begin to move, they must bend their bodies to that side on which a foot touches the ground so as to bring their centre of gravity over the point of support, and thus maintain their equilibrium; the effect of this is to cause a motion swaying from side to side with each pace of the bearers, which might prove beneficial if not counteracted; by making the bearers walk out of step, however, the sway of one to the right is neutralised to a very large extent by the simultaneous sway of the other to the left, and the individual carried is but little affected.

There is another motion, which is in a vertical direction, which requires a different mode of treatment. Let there be two bearers, 5 ft. 8 in. in height, carrying a stretcher; when standing, with their feet together, the perpendicular from the centre of gravity of the body of each to the ground will pass through his hip-joints, and the distance of the centre of motion in these to the ground will be 34 in. If now one foot be advanced 30 in. (the usual military pace) and placed on the ground, while the other remains in its original position, the distance from each hip-joint to the point of support of each foot will remain 34 in., but the perpendicular from the joint to the ground will be 30½ in. only, or 3½ in. less than when the feet were together; so that the body of a man about the height mentioned, with anything he may be carrying, is raised and falls again 3½ inches every pace he takes, when these are 30 in. in length. With paces of 20 in. long the perpendicular from the hip-joint to the ground in the middle of the pace is 32½ in., so that the rise and fall is 1½ in. only, instead of 3½ in. with the longer step. Surgeon-General Longmore, in his Treatise on the Transport of Sick and Wounded Troops, at p. 171, gives some actual measurements, which coincide exactly with those arrived at above from calculation, when there was no one on the stretcher, but with a man carried they were with each length of step three-quarters of an inch more. He proceeds, "Of course, in marching at either pace there is an alternate rise and fall to the same extent, and the effect of this on the elastic poles of a stretcher can be readily imagined."

A stretcher with light side poles, such as circular poles of 1¼ in. in diameter, even with the most careful walking will bend much more than the distances given above as due to the motions of the bearers; the effect on the person carried is a vertical oscillation greatest over the lower part of the chest, the abdomen, and thighs, less towards the head and feet, and repeated at every step. Serious cases of ordinary sickness would be much incommoded if subjected to such a trial, but for men with severe wounds in the trunk or fractured thighs it would be little short of torture. As regards the bearers, the descent of the stretcher from its highest point, with the body of the person upon it, is to be regarded as a body falling under the action of gravity, and every inch it proceeds beyond that due to their movements in walking generates an additional force acting downwards, which might be avoided, but which they have to meet by additional exertion of the arms, shoulders, and trunk. To give a quantitative illustration of this, let it be assumed that a stretcher with a wounded man upon it weighs 150 lb., and that the vertical oscillation due to the motion of the bearers amounts to 4 in., but, that owing to the yielding of the side poles the mean fall of the body is 2 in. more, the additional force generated is equal to that required to raise 150 lb. 2 in. in the same period of time, or its equivalent to raise 10 lb. 30 in., or 2½ ft. This is the force produced by the fall, but inasmuch as the body has to be raised 2 in. again, the actual force thrown on the bearers is that required to raise 150 lb. 4 in., or 10 lb. 5 ft. If, now, by adding 10 lb. more material to the side poles, they were sufficiently stiffened not to yield the additional 2 in. above mentioned, the extra work thrown on the bearers would be to raise this weight 4 in. only, which is rather less than one-fifteenth of the extra work thrown on them by the yielding of the weaker poles.

There was a considerable display of ambulance and field hospital equipment at the Paris Exhibition in 1867, and in 1868 a committee (of which I was a member) was appointed in this country to examine into the condition of the British equipment, and to suggest improvements. The field stretcher then in use had round side poles of ash, 8 ft. long and 1½ in. in diameter; it weighed 15 lb. The objections to it were the great amount of vertical oscillation inseparable from its use, and the want of any means of keeping it off the ground while the bearers were resting, or assisting the wounded man in their charge.

A stretcher which had been adopted by the French army authorities shortly before was placed in the hands of the Committee. This had side poles of ash, square in transverse section, with an area very close on 3 square inches, and of the same thickness throughout, except where reduced at the ends for the bearers to grasp. It weighed 20 lb., and in the extensive trials of it at Aldershot, under my own observation, it was found remarkably free from vertical oscillation, and was characterised by the men employed as bearers as being the easiest to carry of all those they had practised with, though none among them seemed aware of the principle on which this depended. The great stiffness of the stretcher was due to the large sectional area of the side poles combined with their small length, while the weight (only 20 lb.) was not such as to lead to any strong desire to reduce it. The objections to it were that the length (about 5 ft. 8 in.) was too small for many men, and there were at least three separate pieces, the absence of any of which would render it useless, or nearly so.

In designing a stretcher for the British army, the committee were actuated by the following considerations:—(1) That the sacking should be six feet in length; (2) that the stretcher should have as much stiffness as was compatible with moderate weight; (3) that the sacking should be raised from the ground by feet; (4) that the side poles should be capable of being brought together, the feet doubled up, and the whole packed compactly; (5) that every part of the stretcher should be so fixed that it could not be separated or lost. To carry out these objects, the side poles of ash were made square, with the corners above slightly rounded off, with the sides 1¾ in. at the middle, with a transverse section of 3 square in., and to save weight tapering down to 1½ in., or 2¼ square in. section, at the ends of the canvas, beyond which they were rounded off for the bearer to grasp. Steel traverses, hinged in the centre, and to the poles at the ends, permitted of the poles being brought together or extended as required; and steel feet, hinged so as to close in one direction, but to stand open against a check-piece when extended, completed the arrangement. The stretcher so completed weighed 25½ lb., it afforded a steady bed, though not quite so much so as the French stretcher, and possessed advantages which that did not. On reconsidering the matter, subsequent to the committee making their report, it appeared to me it would have been better to have made the poles of the same dimensions up to the ends of the sacking as they were in the centre; this would have added about 2 lb. to the weight of the stretcher, but would have secured practically as much stiffness as in the French stretcher, and would at the same time have relieved the bearers. This alteration has since been made, and a truck added in place of the steel feet. Stretchers so fitted are now to be seen in the Health Exhibition, and weigh 27 lb.

In the above remarks there has been very little notice of pillows for the stretchers, or slings for the bearers; the committee, however, considered both points fully. As regards pillows, they considered these were unnecessary for the field, inasmuch as every soldier has his great-coat or blanket and valise with him, and if wounded these would have to be carried to the rear with him; either of them can be employed to raise his head as desired, and under such circumstances a pillow, which would add to the weight and bulk and be of little real service, had better be dispensed with. As to slings, these are of two descriptions: that issued to our bearers is a simple leather strap, the middle of which is placed over the back of the neck, and the ends hang down over the upper part of the chest in front, while there are loops at the lower part into which the handles of the stretcher are inserted for carriage. This arrangement, it will be perceived, combines a vertical pull over the front of the chest with a forward pull of the neck, the latter having to be met by a corresponding exertion of the long muscles of the back to retain the head and neck in their proper position, in addition to their doing their portion of the work of steadying the trunk under the vertical pull. Now, this additional exertion simply exhausts the bearer more rapidly than he would be if the forces he has to meet were differently disposed. This can be effected readily by employing what is called the yoke system of sling, which consists of two leather straps, the ends of each of which are fastened together, forming a sort of loop; these are placed one on each shoulder, and the poles of the stretcher are put into the bight of the loops below; a cross piece fixed to each loop just behind the shoulders prevents them slipping off, without causing any drag on the neck at all. The committee recommended that these, and these only, should be issued for use by the stretcher bearers.

### *Ambulance Waggons.*

With ambulance waggons, as with stretchers, mere weight affords but a vague means of ascertaining their relative merits; alterations introduced with a view to improvement often turn out the reverse; and even high commendations by reputed authorities may prove an unsafe basis for an exact estimate of their qualities and of their fitness for rough service in the field. At the Paris Exhibition of 1867 thirteen full-sized ambulance waggons, besides four models, were brought together, including those of the French, English, and American Governments, and prizes were offered to inventors who, after a study of these patterns, and with the permission to adopt any valuable feature they displayed, should construct waggons better fitted for the transport of wounded. Two competitors were successful. Locati of Turin, who produced a waggon embodying some recommendations by Baron Mundy; and Dr. Evans of Paris, who had what was considered an improved form of the Rucker waggon, which had been employed in the United States. On the appointment of the Ambulance Committee in 1868 they applied to have specimens of these waggons placed at their disposal for thorough examination and trial, and at the end of the year they were delivered at Aldershot. Locati's waggon weighed 17 cwt. 2 qr., and had wheels of 33½ and 45½ in., with 1½ in. tyres. Evans's weighed 17 cwt. 1 qr., with wheels of 35½ and 52½ in., with 1¾ in. tyres. The heaviest English waggon in the service at the time weighed 16 cwt. 2 qr. 21 lb.; it was equirotal, wheels 50 in., with 3 in. tyres; its draught was consequently much lighter and much more suited for active service than either of the prize carriages.

In both of the Paris prize waggons it was proposed to carry two persons recumbent in the body, or eight sitting; an average man with his clothing and accoutrements weighs about 150 lb., or rather more than 1¼ cwt., and with these numbers the load on the hind springs would vary from 2½ to 10 cwt., in addition to that of the body of the carriage. Now, springs which would act properly with the smaller load would be quite unequal to sustain the greater one; and, *vice versâ*, springs suitable for the greater would act so violently with the lesser ones as to be most injurious to serious cases, as anyone who has travelled over roughish roads in a vehicle with springs insufficiently loaded must have found out. It is usual in this country to meet this difficulty by having a check spring, which comes into action only after the ordinary springs have received their full load, and within certain limits this arrangement is applicable to ambulance waggons, but it is very doubtful whether, even with the check spring, loads varying so much could be carried satisfactorily. Neither Locati's nor Evans's waggon had check springs; and the springs of the former were found so weak at Aldershot that they had to be replaced by a stronger set, and soon after this, with full loads, the body of the waggon settled so much that it bore on the hind wheels, and ultimately tore the spokes out of the naves.

All these waggons, both British and foreign, were fitted with special stretchers, so that a wounded man had to be removed from that on which he was brought to them and transferred to the stretcher belonging to the vehicle itself. It was obviously for the advantage of the wounded that this change should be avoided, and to meet it the Germans had had their ambulance waggons built to receive their ordinary field stretcher—an example followed by the Ambulance Committee in this country. The ordinary track of our military vehicle is 5 ft. 2 in., and with this width the committee found they could have a serviceable waggon with a clear inside breadth of 4 ft. 2 in., which admitted two of the field stretchers, each 1 ft. 11 in. wide, and left space for a partition of 1 in. thick between them, which was carried up sufficiently high to prevent the occupant of one rolling over

or incommoding his neighbour from any unusual motion of the waggon.

The object of an ambulance waggon is to transport men who have sustained severe injuries with the least risk or inconvenience; and to effect this they must be subjected to the smallest amount of motion attainable, and in the least hurtful directions. When the springs of both sides of the waggon act equally, at the same time and in the same direction, a vertical motion only results. When the springs of one side only are put in action, they react on the mass above them, causing a heave upwards of that side, with a tendency of the body of the waggon to rotate round a line passing through its centre of gravity longitudinally, and compressing the springs on the opposite side. At the level of the floor this causes a vertical rising motion on the one side and a falling one at the opposite side, while at a variable point between them there is none; at some distance above the floor the vertical component is reduced, and a lateral motion becomes developed largely. In practice, of course, the two modes of action of the springs here mentioned are combined more or less, and varied to infinity by the varying obstacles the wheels encounter, but the motions resulting therefrom are all resolvable into the vertical and lateral components noticed above. If, now, the action of these motions on a person lying on a stretcher be considered, it will be seen that while either rising or falling every part of his body is borne on the stretcher, and all that it is possible to do is to render the transition from either to a state of rest, or to the opposite direction, as soft and gentle as possible by carefully adapting the springs to the load they have to carry. With lateral motions everything is different; there is no support anywhere, and even when the heave is not sufficient to throw the patient to one side of, or even off the stretcher altogether, it causes a rolling motion of the most injurious description for men with serious wounds or fractures; the body rolls from side to side on the chest, and the pelvis and lower extremities follow in the same direction, but at such an interval that the chest has nearly completed its oscillation in the opposite direction before the legs and feet have reached their full swing in the original one. During the Civil War in America, though some of the ambulance waggons were fitted for carrying two tiers of stretchers, the use of the second tier was virtually abandoned.

Locati and Evans introduced springs inside their waggons for the stretchers to rest on, with a view of easing the motion for their occupants, and many others have followed the same practice. All, however, seem to have overlooked the fact that springs, like musical strings, have periods of vibration, varying with their length and thickness, and that to place shorter and lighter springs inside a waggon to lessen the jar of those outside, was, at the same time, to place there a source of movement not in unison with the external springs, and one which this very want of unison could not fail to call into vigorous and, in the case of wounded men or serious medical cases, most injurious action. The committee tried, in the same waggon and at the same time, two stretchers in every respect similar, save that one was fitted with springs while the other was without them, and the difference as regards steadiness in favour of the latter was most marked. From all these considerations it is obvious that a man severely wounded is most advantageously situated where he is subjected to the motion of the body of the waggon alone, at a point as near the floor as can be managed, and the ease of this motion can only be adequately provided for by careful adaptation of the springs to the weight they have to carry.

As already stated, in both Locati's and Evans's waggons, when there were no recumbent cases, men sitting were intended to be carried, but the arrangements for those were far from satisfactory. An ordinary sized man, with a seat of 1 ft. 6 in. in height, requires a space of about 2 ft. 9 in. from his back forwards for the limbs; and if he have to sit for any length of time, it is advisable this should be extended to 3 ft., to admit of greater change of position to relieve the irksome feeling caused by retaining the muscles too long in the same state of tension. If the height of the seat be reduced, it can be made comfortable only by inclining the back, and extending the legs, or, in other words, increasing the horizontal space occupied by the individual. The importance of these points is greatly enhanced when the persons concerned are feverish, or weakened by sickness, for what merely causes irksomeness in healthy men will add much to the suffering of these, and may even aggravate their disease. In Evans's waggon, with seats 1 ft. 2 in. in height, the horizontal space available was only 2 ft. 9 in. at the utmost, and in Locati's, with seats 1 ft. high, the horizontal space was 3 ft., both of them far too small for these heights of seat, while the structure of the vehicles prevented any inclination being given to the back.

There is a strong desire on the part of many persons to have the weight of ambulance waggons largely reduced, without considering fully how far such reduction would affect their durability and usefulness. This question of weight has to be regarded from two points of view—(1) the actual dead weight in the waggon to each person carried, and (2) the manner in which the weight is distributed in the structure itself, and its influence on the draught. As regards dead weight, the Locati waggon, with two recumbent cases, could carry four other persons, including the driver and an attendant, or six in all, with a weight of 329 lb. to each. The Evans waggon, with a similar load, would have a dead weight of 322 lb. to each; and in the heaviest of the English waggons with the same number the dead weight would be 300 lb., but if the number were eight, which the vehicle could carry, it would have been 234 lb. only. In the new pattern ambulance waggon recommended by the committee the weight of the vehicle with all its fittings complete was 18 cwt. 5 lb., and with eight persons, including driver and attendant, the dead weight per man was only 253 lb. With regard to the distribution of the weight, the following facts are of great importance. The waggon of the Ambulance Committee as a whole was 1 qr. 19 lb. heavier than that of Locati, and 3 qr. 5 lb. heavier than Evans's; the body of the vehicle, including axles, springs, and fittings, is lighter than the corresponding parts of Locati's by 1 cwt. 2 qr. 22 lb., and lighter than Evans's by 3 qr. 12 lb. The increase of weight is altogether in the wheels, of which the fore are 36 in. in diameter, the hind 56 in., and both with 2 in. tyres, while they are made of the Madras pattern, with metal naves, which, though heavy, are unequalled as regards strength, suitability for different climates, and facility of repair. The wheels of Evans's, and still more of Locati's waggon, had been reduced, to save weight, until they were no longer serviceable for campaigning, and their draught was most materially enhanced everywhere but on firmly paved streets or roads; and from these an additional hundredweight, or even more, in them would have been a decided advantage for the horses.

It will be borne in mind that the above reflections apply to the ambulance service of troops in the field. In this country, during peace, there can never be the same pressure as after a battle, or with a sickly army, and this will admit of considerable modification of the means employed without material harm accruing. Carriages, too, which are scarcely ever required to move but over paved streets or well-made roads, may prove useful which would tumble to pieces in less than a week in real campaigning, with the rough usage of untrained soldiers; but the principles inculcated, it is believed, are intimately connected with the efficiency of the service everywhere.

## THE ETIOLOGY OF TETANUS, AND THE OCCASIONAL VALUE OF NEURECTOMY IN ITS TREATMENT.

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TETANUS has ever been a subject of deep interest to the surgeon, as much for its mysterious causation as for its terrible and all too frequently fatal manifestations. Well-nigh as often the result of a trivial as of a grave injury, and at times appearing unconnected with any traumatism, it is no wonder that since pathology became the science it is to-day, its best efforts should have been devoted to the discovery, if possible, of the morbid conditions which mark a disease, some of the strongest features in which are that the widest and ripest experience may entirely fail to apprehend its advent, to explain why it should have appeared, or to predict with any certainty the anatomical changes which underlie it. And even now the task is unaccomplished, for, great as the progress has been in the demonstration and elucidation of the morbid anatomy of the spinal cord, there yet remains a hiatus in our knowledge as to any one condi-

tion which may be regarded as characteristically *the* lesion of tetanus. Lockhart Clarke, Dickinson, Allbutt, and Coats, investigators whose knowledge of spinal pathology was and is transcendent, have each described certain appearances which they are inclined to regard as necessarily associated with the disease; but other observers equally earnest, and we believe equally careful, have failed entirely to corroborate their results. Nor are we inclined to regard this as extraordinary, for it seems to our thinking that it would be indeed difficult to understand, were the marked changes they have described always to exist, how such complete relief of symptoms and rapid recovery could have followed as has undoubtedly obtained in certain cases treated by neurectomy and by amputation. It almost appears as if this very search for morbid lesions, and the descriptions given of them by the observers to whom I have already made reference, had, in that necessary questioning which has arisen as to their probable causation, turned the attention of the profession so thoroughly to the humoral pathology of tetanus that its members seem in danger of forgetting the possibility that an excentric irritation may at times play a very important part in the origin of the disease. Before, however, entering upon the cases which I mean to detail in support of this last proposition, I desire to consider shortly the usually accepted theories of its causation—the humoral and the nervous,—and the reasons adduced in their support.

Dr. W. B. Richardson's opinion, expressed many years ago, was that the disease depended upon a poison developed in the wound as a result of decomposition; and this view has been sustained by the recent investigations of Coats,[1] who believes that the special changes observed by him in the spinal cord are the secondary effects of a *materies morbi* which, circulating in the blood, acts primarily upon the bloodvessels themselves. Certain etiological and vital conditions are admittedly strongly in favour of such a view; the occurrence of idiopathic tetanus seems difficult of explanation upon any other supposition than that of an alteration in the blood itself; and yet so intimately associated is the bulk of such cases with certain climatic conditions, the presence usually of damp and cold, that I would incline to the belief that in some of them we may have in their atmospheric surroundings the sources of peripheral excitation. Mirbeck[2] cites a case of an infant who died of tetanus four days after having received full upon its chest a glass of iced water while in a state of perspiration; and the fact is well established that by chilling a healthy nerve with ice its condition is so changed that the least tap upon it brings about violent and sudden spasm. Baron Larrey states that in a case of acute tetanus in which amputation was resorted to, and in which the symptoms entirely disappeared, the patient having been unhappily exposed to the chill air of night, immediate and fatal relapse followed. Tetanus is not uncommon in the horse as a direct and rapid sequel of "clipping" done in very cold weather, and in aged animals it is not unfrequent after exposure to storms of snow and cold winds. It seems, then, that if a comparatively limited shock from cold is capable, as in the case of the child it proved to be, or, by a more general impression, as in the horse, of originating the disease; if it exercise, as it surely does, so strong an influence on nervous tissue; and if, as probably occurred in Larrey's case, the irritation of the cut nerves in the face of the cut stump reproduced it,—then we can believe that in some individuals it may be the direct result of excitation arising from the exposure of surfaces rich in nervous supply to the chilling effects of damp and cold.

Nor is tetanus the only disease which is rendered more common by certain atmospheric conditions. Many authorities in midwifery state that puerperal eclampsia is similarly influenced, and as this is a condition not always due to the existence of a poison in the blood, it is probable that in the nervous system itself the phenomena which mark it have primary origin.[3] The occurrence of tetanus in an epidemic form, and its direct association with bad hygienic surroundings, are to my thinking the most powerful of all arguments against the nervous theory; and yet even here one must consider how much the lowering of nerve-tone, which is ever the outcome of such conditions, may have to do in predisposing to its development a patient whose nervous system, either as the result of traumatism or atmospheric conditions, has been subjected to peripheral irritation. The rise in temperature usually observed in septic states has been pointed to as an indication of change in the blood, but this is by no means certainly present in cases of tetanus; indeed, I have seen a case run rapidly to a fatal termination with scarcely any rise in temperature, such rise as did occur being perhaps explicable as the result of severe convulsions in a man whose nervous system was for the time being in an extraordinary state of instability. The testimony of O'Beirne[4] is on this point of interest, for although he had necessarily no knowledge of clinical thermometry, he doubtless possessed the power of recognising the febrile state, and yet he notes that in 200 cases he witnessed in the Peninsula none were febrile. Of moment as a prognostic sign, for a high temperature in tetanus indicates as a rule a severe form of the disease, it is yet no positive indication that a poison is circulating in the blood. Trismus nascentium, the pathology of which has been long in dispute, but which in later times has been accepted very widely as a well-marked instance of zymosis, has received from different quarters fresh questionings as to the truth of the doctrine. The first and much the earlier is that of Marion Sims, who asserts that it is "a disease of centric origin depending upon a mechanical pressure exerted on the medulla oblongata and its nerves; that this pressure is the result most generally of an inward displacement of the occipital bone, often very perceptible, but sometimes so slight as to be detected with difficulty." After viewing the disease in all its bearings one has difficulty in accepting such an explanation; but Dr. Hartigan,[5] who has made 150 post-mortem examinations in such cases, records his experience as entirely in accord with Sims' views. But there is another authority, Parrot, who has, according to the thinking of Nicaise, demonstrated that in temperate climates at least the disease, which has been described as trismus nascentium, is only a form of eclampsia due to uræmic brain disease;[6] and in support of this there is the recognised fact that its symptoms differ in some important particulars from those of true tetanus. Attention, too, has been drawn to an unhealthy state of the wound as a possible cause of tetanus, and in many recorded cases there existed such a condition; but its importance diminishes when we remember the fact that tetanus may occur with wounds which are perfectly aseptic, or appear when the primary injury has soundly and completely healed. As the result, however, of careful consideration of the arguments in its favour, and the objections which may be urged against them, there yet remains a seemingly insuperable difficulty in explaining upon any other grounds than those of a dyscrasia many cases marked by all the impressive features of tetanus. That a certain number of cases are due to direct nerve irritation is my belief, and, great as the difficulties are in demonstrating or explaining scientifically how peripheral irritation can excite and keep alive the widespread series of phenomena which characterise the disease under consideration, there are, I submit, a sufficient number of cases on record in which section of nerves has cured it to warrant the belief in a *post et propter hoc*.

There is one fact which must strike all interested in cases of tetanus, that in the mass of tetanic histories the irritation which we contend has arisen is connected with the extreme distribution of nerves. Not only so, but injuries in certain localities are notably more liable to be followed by it, and in some of these regions, as in the instance of the fingers and hand, the tactile corpuscles of Meissner and of Pacini are most abundantly developed. In my own experience of the disease nearly two-thirds of the cases had sustained injuries of the hands or feet, and in a very considerable number of instances which I have collected in the practice of my professional friends more than half were connected with wounds of the upper extremity. That these facts are not mere coincidences I feel well assured, and I believe they admit of a solution which may have some bearing in explaining one possible mode of origin of the disease. It is within our knowledge that as nerves approach the cutaneous surface, and especially when they enter the region of the skin, they lose their protective coverings, the medullary sheath and the sheath of Schwann. They are, therefore, especially exposed to injury and to irritation; and so much importance would I incline to attach to this circumstance, that I would venture to guess that the very presence of these sheaths and the protection they afford to the enclosed axis cylinder mainly accounts for the observation that injuries to large nerves in their course are not so pro-

[1] Medico-Chirurgical Transactions, vol. lxi., p. 79.
[2] Nicaise: International Encyclopædia of Surgery, vol. iii., p. 606.
[3] Ford; cc Barker: The Puerperal Diseases, p. 117.
[4] Poland: Holmes's Surgery, vol. i., p. 312.
[5] American Journal of Medical Sciences, Jan., 1884.
[6] International Encyclopædia of Surgery, vol. iii., p. 613.

ductive of tetanus as when in their distribution they have reached the periphery. The experiments of Brown-Séquard,[7] performed long ago, proved the fact that irritation applied to the cutaneous ramifications of certain nerves induced convulsions, while irritation of their trunks had no such power; and Weir Mitchell, in his valuable monograph on "Injuries of Nerves,"[8] remarks "that the tendency towards irritation, resulting in spasm, seems to increase as the nerves divide and approach the skin." Mitchell Banks, in the Liverpool Medical and Surgical Reports for 1869, details some cases of slight injuries to digital nerves, giving rise to distressing symptoms and widespread reflex sympathies, while the cases detailed by Swan in connexion with lancet wounds of nerves would lead one strongly to suspect that wider reflex symptoms are likely to be aroused by wounds of small cutaneous nerves than by those of larger and more important trunks. But the difficulty lies not so much in finding the probable source from which the irritation springs as in explaining in what way it induces tetanic symptoms. The theory that would explain its occurrence in every case as due to an ascending neuritis cannot be accepted, for the evidence pathology can offer is clearly against it, but that reflex symptoms may arise independently of any inflammatory condition is proved by the cases of Banks, to which I have already made reference, for not only in them were portions of the affected nerves removed with excellent results, but the most careful examination failed to detect any morbid change in the parts removed. That neuritis does occur in some cases, and that without the presence of an open wound, I have personal knowledge, for in the very last case of tetanus which came under my observation, where it followed extraction of a tooth within twelve hours of the operation, and where death occurred in little more than thirty hours from the seizure, the inferior maxillary nerve was hard and red, and was by careful examination demonstrated to be in an undoubtedly inflamed condition. Moreover, the presence of pain and tenderness in the line of the nerves of the extremity involved in an injury of which records exist seems to warrant the conclusion that in such cases there is present a more or less developed neuritis. Independently, however, of any such direct transmission of harm, it seems to me, arguing from other morbid states than that of tetanus, that in certain individuals—for I believe there is a personal equation in most tetanic cases—it is possible for a peripheral irritation to induce exaggerated spinal reflex excitability, or direct reflex excitation either, as has been supposed, by paralysis of the moderator centre for reflex action or by Ringer's ingenious theory of lessened resistance.

In two other nervous maladies have we symptoms somewhat similar in their manifestations, and I believe equally difficult as regards their *rationale* of scientific explanation. Epilepsy, no longer regarded as a blood disease in the sense that Dr. R. B. Todd held it, is now considered to have its probable seat in the middle motor region of the cerebrum. Several cases are on record where irritation of a particular cutaneous region induced attacks of this malady. Dieffenbach details a case cured by the removal of a bit of glass lying in close proximity to a nerve; Pouteau cured the affection by destruction of a painful cicatrix; Carron by the removal of a tumour on the thumb; Bryant by an incision through a tender spot on the scalp; while Brown-Séquard states that "we know many cases where there was in the beginning of the fits a local cramp resulting from a secondary irritation of the nervous centre—i.e., produced by a reflex action due to excitation of sensitive nerves near the muscles attacked with cramp."[9]

And again, chorea, the morbid anatomy of which is still unwritten, has, in some instances, the most intimate connexion with excentric irritation. Packard, in the *American Journal of Medical Science* of April, 1870, records a case arising from injury to the terminal end of the median nerve in the thumb, which was cured by exsection of the sensitive part; while Weir Mitchell,[10] writing of it in connexion with wounds of nerves, and especially in association with the changes which take place in the divided ends of nerves in stumps, says, "The stump muscles or nerves are in the condition of those of a person fully charged with strychnia, ready to respond excessively, and without regularity, to any excitation." If, then, epilepsy and chorea, diseases having their seat in higher centres than those affected in tetanus, can be the result of irritation in the ultimate distribution of nerves, then it seems more easy to receive without sufficient or adequate explanation the possibility that tetanic spasms may arise in a similar way, and thus we escape the necessity, which many seem inclined to accept, that only through a poison in the blood can tetanus be produced.

One fact among a very considerable number that is difficult of explanation on the sepsis theory is the *rationale* of the cause of death in such cases as those recorded by Bandeleben and Robinson, where it followed in a quarter of an hour from the time of the receipt of the injury. Severe nervous excitation sufficient to upset the working of some highly sensitive and delicate nerve centre, the outcome of which was a suffocative spasm, might produce this. It is certainly well nigh impossible to conceive a poison generated *de novo* in the wound capable of development and of such momentous action in so short a period. Further, the disease has never been transmitted by inoculation or transfusion; while the kindred states, to which as regards physical manifestations it is often likened, hydrophobia and strychnia poisoning, are but too readily propagated by the transference of the blood in which the poison is circulating.

*(To be concluded.)*

[7] Researches on Epilepsy. Boston, 1857. [8] P. 147.
[9] Op. cit., p. 39. [10] Op. cit., p. 363.

## A NEW INHALER.

### WITH REMARKS ON OPEN ANTISEPTIC INHALATION.

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THE discovery of Koch's bacilli amid the morbid processes which are now grouped together under the term pulmonary phthisis, and the new theory grafted upon it, that micro-organisms are the essential elements in the development of tubercular disease, have certainly stimulated the revival of the old treatment by inhalation, and have stamped it with fresh value and importance. It is, however, a matter for pathological investigation to unravel what is the exact relation between these specific bacilli and the pneumonic changes which pass on to softening and excavation; and whether the organisms are to be regarded as the cause or the mere outcome of these necrotic processes. At present we are not warranted in assuming that phthisis is the product of a distinctive bacillus embedded in the tissue of the lung, and we must wait for the results of future investigation and experiment; still the progress of research clearly points to the conclusion that phthisis, with its many variations, will soon be recognised as a specific disease, characterised by the formation of a new growth, containing specific micro-organisms, which can be detected in the sputum during life, and in the structures invaded by the disease after death.

Now, there is some subtle association between this modern theory and the fashionable treatment of inhalation which appears to be almost anticipating its final demonstration. But it must be stripped of all speculative value, and the test of experience alone must be the real guide for its adoption. The notion that antiseptic vapours are weapons of destruction upon these mysterious organic forms may seem a hopeful creation of the imagination, but certainly there is not a fragment of evidence even to suggest the assumption that volatile antiseptics are killers of bacterial growth hidden in the substance of the lung. Moreover, it is not possible to conceive how either dry or moist vapours in any form, possessing a low degree of volatility—whether administered by the aid of respirators, or by immersion in the atmosphere of a chamber charged with the most powerful medicinal substances—can ever be sufficient in potentiality to arrest within the pulmonary tissue the development of the specific organisms which are found to be intimately associated with the existence of tubercle.

The recent revival of the old question as to the contagiousness of phthisis has also exercised an important influence in promoting the treatment by inhalation, and has even succeeded in giving it a new direction. The possible communication of the disease by contagion of some sort has long been a matter of controversy, and many men of distinction have taken part in this ancient disputation; but at the present moment it is still surrounded by many difficulties, and it

appears almost as far off as ever from a final settlement. The discovery of micro-organisms has produced a complete resuscitation of the old dispute, and has surrounded it with new and impressive issues. Some regard the results obtained by the inoculation and artificial cultivation of the specific bacillus as strong evidence in favour of the doctrine, and their convictions on the matter induce them to advocate a special method of applying topical remedies to the air-passages. The speculations concerning the existence of the bacillus in the phthisical breath and the dissemination of its germs in the air, mingled with the germs of universal distribution, are far beyond the limits hitherto reached by scientific research. Yet the mere conjecture that germs may find an entrance from without has certainly roused the ingenuity of some inventive minds, and suggested to them the grave necessity of intercepting them by a mechanical device at the very threshold. It is in this way, too often, that enthusiasm develops theory, and theory wields a directing force in the construction of methods of treatment which are utterly inconsistent with scientific truth, and even common experience. Surely it is a fact beyond dispute that no kind of inhaling contrivance can defy the entrance of germs with the air of inspiration; at the same time no form of respirator can be persistently employed by the patient. In reality it is a mere fad to attempt to filter and sterilise the air, for there is not a particle of evidence to support the notion that such filtration can be essential to the successful application of inhalations in those individuals who are actually labouring under tubercular disease, and it is extremely improbable that any laborious endeavour to sterilise the air can help to check the growth of organisms which have already found a lodgment in the lung. Even admitting that it is possible, by the intermittent application of a complex cover over the mouth and nose, to reduce the number of infective particles which enter the body, and to isolate, in a measure, the patient from the invisible hosts around him, then it clearly follows that such device ought to be considered in the light of a protecting instrument for any individual threatened with pulmonary disease, who is unfortunately exposed by social circumstances to the danger of a polluted atmosphere, by contact with others actually labouring under phthisis, and, therefore, the disseminators of an infective material which is capable of impregnating the organs of any susceptible of its invasion.

On the other hand, I am not singular in holding the opinion that all efforts to filter the inspired air are theoretically unsound and practically useless, and that the cumbrous instruments constructed with this intention often indirectly exercise a baneful influence on the surroundings of many who are daily endeavouring to protect their lungs with antiseptic inhalations. The constant use of a close inhaler fosters the common prejudice against fresh air and sufficient ventilation, and the treatment degenerates into a struggle between germs within and germs without, hopelessly carried on by breathing through an uncomely mask, and by confinement in a close and stuffy atmosphere. I feel convinced that every remedial agent employed in the management of chest disorders must be positively injurious to the patient whenever it distracts the attention from the common and hygienic measures which are so essential to the general improvement of the system and the increase of the vital resistance of the whole organisation.

Now, in whatever light the speculations are regarded concerning the action of inhalations as destroyers of bacilli or as protectors against floating germs, it must be admitted that this treatment has made remarkable progress, and has also been practised with very great success. What, then, is the *modus operandi* of antiseptic inhalations in pulmonary affections? Surely the action of these remedies admits of a very simple explanation. They are valuable not only in the treatment of phthisis in all its forms, but, fortunately, they are equally applicable for many other chronic disorders of the chest, and their judicious administration is certainly followed by very considerable relief. Dr. Solomon Smith rightly observes:[1] "We are forced to believe that the benefits derived from the use of antiseptic inhalations are due to the infiltration of the lungs with antiseptic material, rather than to any action upon the floating germs." The vapours which are mingled with the inspired air penetrate deeply into the passages, and are there absorbed by the moisture of the respiratory surface; and thus, by direct application, they purify the air in the remote portions of the lungs and cleanse the mucous membrane generally by preventing decomposition in the fluids and stimulating more healthy secretion. In chronic bronchitis, bronchorrhœa with dilated bronchi, and emphysematous affections, the efficacy of the treatment is beyond dispute; for by assisting the discharge of the expectoration, and by delaying the septic changes which occur within it, they remarkably modify the disorder at the very seat of its activity. In phthisis these topical remedies have proved also powerful auxiliaries to general treatment. They check decomposition in the secretions, and aid in the evacuation of the infectious materials, which are the direct products of the disintegration of the pulmonary tissues, and which, by the processes of absorption and diffusion, often establish new centres of disease. But, apart altogether from any specific effect of the antiseptic vapours, it must be admitted that the act of continuous inhalation exerts a very salutary influence by stimulating full and repeated expansion of the lungs; and this forced activity of these organs is in itself an important factor of the treatment. The value of free inspiration, and the part it plays in the successful application of antiseptic inhalation, have scarcely received the general recognition to which they are justly entitled. Many years ago the late Dr. Ramadge warmly advocated the use of an inflating tube for the simple purpose of expanding the lungs and stimulating their functional activity by voluntary effort. In phthisis these organs are very imperfectly expanded. The sputa, collecting in the passages, obstruct the aerial movements, and some portion of the air, only partially changed, becomes imprisoned in the remote parts of the pulmonary tissue, and thus the healthy balance between inspiration and expiration is disturbed, the breathing becomes shallow, at the same time gradual contraction and emaciation of the thoracic parietes are seriously accelerated. Now, it appears to me that much of the success which has followed the introduction of antiseptic inhalation is due to persistent expansion of the lungs by forced inspiration, and, certainly, this novel and fashionable system corroborates the value of the mechanical method practised by Dr. Ramadge. His notions respecting the antagonism between emphysema and phthisis have now almost passed into oblivion, but his special treatment of utilising functional activity as an instrument for arresting the progress of tubercular disease is surely now receiving a remarkable acknowledgment in the revival of respirators and local medication. The new treatment is, in fact, a close repetition of the old mode of inflation, with the addition of an antiseptic vapour to the inspired air; and the beneficial effect produced by its persistent employment can in a great part at least be fairly attributed to the expansion of the chest in full and forced inspiration, for this not only assists in maintaining the volume of the lungs, and in stimulating the activity of those portions of their structure still free from the elements of tubercle, but it also favours the circulation itself, and helps on the processes of local and general nutrition, by which a vital resistance is developed, restraining the progress of the disorder, and powerfully contributing towards its final arrest through the contraction and limitation of the local disease.

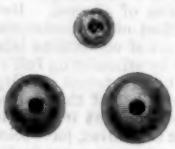
The advocates of antiseptic inhalation are quite unanimous as to the necessity of employing it with great regularity and perseverance over a long period; but there is much diversity of opinion as to the method of application and the form of instrument best adapted for the treatment. Recently Dr. Hassall has referred to "the comparative inefficiency in diseases of the lungs of the methods of inhalation now in use by means of oral and oro-nasal inhalers," and he advocates the revival of the old method of treatment by means of a chamber charged with antiseptic vapours, and is now engaged in perfecting an apparatus which he hopes will render this system more generally practicable. The experience of most practitioners at the present time is, however, clearly in favour of the direct inhalation of dry vapours, and a great variety of instruments have been constructed for the purpose—for the most part modifications of the original respirator inhaler suggested by Dr. Sinclair Coghill in 1876. The simplest forms of apparatus are now almost universally preferred, as they are more comfortable to the patient, and more readily tolerated during prolonged application. Some inhalers are too heavy and cause a feeling of oppression, and sometimes even difficulty of breathing; others are objectionable by pressing on the face and causing irritation of the skin. It is my opinion that all close oro-nasal respirators

[1] Vide British Medical Journal, Feb. 23rd, 1884.

and complex instruments present no real advantages, and that they must soon fall into disuse, as their employment is seriously irksome to many patients. An inhaler ought to be a very light mechanical contrivance, especially designed to permit the voluntary introduction of medicated vapour by full inspiration, at the same time securing the freest possible access of air, so that the continuous and daily practice may be rendered both endurable and pleasant. The small instrument represented in the engraving appears to me to possess all these essential qualifications. It consists of a vulcanite receptacle (see Fig. 1) for holding the little pledget of cotton-wool upon which the inhalant is dropped. The

FIG. 1.

FIG. 2.



wire suspends the inhaler, and serves also as a compressor of the nose. When used for nasal inhalation one of the balls (see Fig. 2) must be selected, and half only of its circumference ought to enter the nostril. During oral inhalation another ball is used, or the neck of the inhaler can rest against the upper teeth. Figures 3 and 4

FIG. 3.

FIG. 4.

explain the methods of adjusting the instrument. By merely opening and closing the mouth the patient can regulate the entrance of the antiseptic vapour into the lungs. It is extremely light, and causes no fatigue or oppression, and it does not require to be taken off during coughing and expulsion of the sputa. I am much indebted to Messrs. S. Maw, Son, & Thompson for the care they have bestowed upon the manufacture of my inhaler, and I am glad to add that it can be obtained from that firm at a very moderate price.

The following table exhibits the respective weights of some of the best known inhalers now in general use :—

| | Drachms. | Grs. |
|---|---|---|
| Coghill's metal inhaler ... ... ... | 8 ..... | 45 |
| ,, nickel-plated inhaler ... | 7 ..... | 19 |
| ,, celluloid ,, ... | 3 ..... | 27 |
| Mackenzie's metal ,, ... | 15 ..... | 40 |
| ,, nickel-plated ,, ... | 18 ..... | 52 |
| ,, celluloid ,, ... | 8 ..... | 29 |
| Robert's nickel-plated ,, ... | 9 ..... | 3 |
| ,, metal ,, ... | 7 ..... | 2 |
| Burney Yeo's perforated zinc inhaler | 3 ..... | 40 |
| Ward Cousins' inhaler ... ... ... | 1 ..... | 12 |

In conclusion, it has been my endeavour to confine this paper strictly to the consideration of open inhalation; and I have ventured to suggest that it is not merely a convenient mode of employing the breath as a medium for the introduction of antiseptic vapour, but that it is also a simple and mechanical method of sustaining forced inspiration, and thus utilising the antagonism which fortunately exists between pathological change and healthy activity. Any reference to the value of different inhalants and antiseptic combinations has been intentionally avoided, and for information on these important matters I must especially mention the paper of Dr. Sinclair Coghill,[2] and also many recent contributions by Dr. Burney Yeo, and other eminent physicians. To Dr. Sinclair Coghill we are undoubtedly indebted for the revival of inhalation as a regular part of the treatment of pulmonary disease, and a perusal of his published experiences will be extremely serviceable to any who have not yet given it the attention which it merits.

Southsea.

## A CASE OF NASO-PHARYNGEAL POLYPUS;

### REMOVAL BY THE ÉCRASEUR AND ACTUAL CAUTERY, AFTER SPLITTING THE SOFT AND CUTTING AWAY THE POSTERIOR THIRD OF THE HARD PALATE.

BY W. J. WALSHAM, F.R.C.S.,

ASSISTANT-SURGEON TO, AND DEMONSTRATOR OF ORTHOPÆDIC AND PRACTICAL SURGERY AT, ST. BARTHOLOMEW'S HOSPITAL.

W. B——, aged forty, a maltster, was admitted, under my care, into Pitcairn ward, on Jan. 1st, 1884, having for some weeks previously been an out-patient. He complained of a stoppage of the right nostril, attended with a discharge from both nostrils, which at times was blood-stained. He had also severe and continued frontal headache, and frequent pains, darting from the nose to the right ear. He stated that about nine months ago he had been taken ill with bronchitis, and was treated for it at Victoria-park Hospital, where he was told he had weak lungs. Since then he had lost twenty-eight pounds in weight. The obstruction of the right nostril had come on gradually, and he was now unable either to blow or breathe through it. The discharge, which was often offensive, at times passed down his throat, and was brought up on coughing. He had always been a temperate man, and had hitherto enjoyed excellent health, and there was no history of cancer or syphilis.

Nothing abnormal could be seen on examining the nose through the anterior nares, even with the aid of a long Zaufal's speculum. It was found, however, on attempting to pass a small indiarubber tube for the purpose of tying up the palate, that the right nasal cavity was blocked posteriorly. On introducing the mirror behind the palate tied forward by the indiarubber tube, which was easily passed through the left nostril, a large swelling in the naso-pharynx on the right side was made out, and could also be felt with the finger carried behind the palate. Manipulation with the finger caused excessive hæmorrhage, although it was done with all gentleness, the patient losing more than half a pint of blood. A small gland could be felt just behind the angle of the jaw on the right side, and one or two smaller glands on the left side of the neck, posterior to the sterno-mastoid muscle. On Jan. 8th the growth was found to have markedly increased in size, and although its exact attachments could not be made out either by posterior rhinoscopy or with the finger, it was thought that it sprang from the basilar process, and probably also from the posterior wall of the pharynx. It was resolved to attempt its removal.

On Jan. 12th, the patient having been placed under chloroform, two silk sutures were passed through the soft palate, one on either side of the middle line, and the soft palate divided to its junction with the hard. The incision having been carried forward in the middle line for about an inch and a half, the soft tissues were separated from the bone with the aid of raspatories, and having been held aside with silk sutures, the posterior third of the hard palate was cut away with a mallet and chisel. An excellent view of the parts was now obtained, and the stem of an écraseur was passed through the right nostril, and the cord guided round the growth with the aid of the finger in the pharynx. It was found that the growth had a more considerable attachment to the posterior wall than was imagined, and it had to be torn and raised with the finger so as to form a groove for the cord of the écraseur. On screwing up the écraseur the greater part of the growth was in this way removed, and what remained of its base was destroyed with a Paquelin's benzoline cautery. The palate was then brought together and united with horsehair and silver sutures in the ordinary way. The operation lasted upwards of an hour, and a considerable amount of blood was lost from the great vascularity of the growth, and

[2] British Medical Journal, May, 1881.

its tendency to bleed on even the gentlest manipulation. The growth removed was about the size of a small orange. It was tough, hard, and fibrous in consistency, of a yellowish-white, shining appearance on section, and, as was seen on microscopical examination, was composed of fibrous tissue with an admixture of spindle-shaped cells. On the 13th he passed a fair night. The evening temperature was 100°, but in the morning it was again normal. There was great pain in the head. The nose was ordered to be syringed out every two hours with weak Condy's lotion. On the 20th the sutures were removed from the palate. On the 22nd he was up for the first time, and on the 31st he was discharged from the hospital breathing freely through the right nostril, and well in every respect. The gland at the angle of the jaw was much smaller. On March 4th the patient was readmitted, as the gland had increased in size, and others had appeared. These were removed on March 6th, and the naso-pharynx was thoroughly examined whilst under chloroform. Some induration was felt at the former situation of the growth, but there were no definite signs of a return. The wound of the neck healed readily, and the patient left the hospital on March 20th.

*Remarks.* — The severe hæmorrhage which attended even the most gentle examination with the finger made it exceedingly difficult to define the exact attachments of the growth, and its size was such that the rhinoscope revealed little more than that there was a large mass blocking the right choana, and occupying the right half of the naso-pharynx. It became a question therefore what operation, if any, should be attempted for its removal. It was clear that, from its size and attachments, it could not be removed through either of the natural passages — i.e., anteriorly through the nostril or posteriorly through the mouth; and for the same reasons the operation of turning up the ala of the nose, or that of Rouge, did not commend themselves. The choice of operation was therefore narrowed to that of the partial or complete removal of the superior maxilla, or splitting the palate after the method of Nélaton. The last, as attended with the least danger, was finally decided on. A better view of the parts could not have been wished for, and although the removal of the growth was still difficult on account of its broad base of attachment, the whole of it was ultimately removed. The patient made an excellent recovery. The temperature, which never rose above 100·6°, fell to normal on the fourth day, and so remained for the rest of his stay in the hospital. The growth, though hard, firm, and apparently fibrous, was found on microscopical examination to be a spindle-celled sarcoma, and it is therefore interesting to note the secondary affection of the glands in the neck. The superiority of Nélaton's method of splitting the palate, over Langenbeck's operation of resection of the maxilla for the removal of such naso-pharyngeal polypi as do not allow of extirpation by simpler methods, cannot, I think, be too strongly insisted upon; and the more so as it does not appear to be generally admitted. I have seen both, and have no hesitation in preferring the former. The one is comparatively speaking a slight, the other a most serious, undertaking; in one there is but little shock, in the other it is severe; in one there is next to no hæmorrhage, in the other it is free, sometimes alarming. The latter, moreover, leaves an external scar, is necessarily attended with some injury to the lacrymal apparatus, and may be followed by unsightly œdema of the lower eyelid. In both an excellent exposure is obtained, but I do not think that that in Langenbeck's operation is any better for the purpose than that in Nélaton's. When the growth has invaded the anterior part of the nasal fossæ or the antrum, no doubt resection of the maxilla is the better operation; but when it is confined to the posterior third of the nasal fossa, Nélaton's in my opinion should be performed, and it is principally for the purpose of calling attention to this point that the case is published.

Weymouth-street, W.

DEVONSHIRE HOSPITAL AND BUXTON BATH CHARITY.—At the meeting of the committee of management of this institution, held on the 5th inst., Dr. Robertson stated that during the half year ending June 30th, 1102 in-patients were admitted to the hospital. Of these, 684 were discharged as improved, 127 as no better, 6 at their own request, 3 were dismissed, 4 died, and 278 remained on the books at the end of the half year. The number of out-patients admitted was 91, and of these 26 remained on the books.

# A CASE OF CEREBRAL EMBOLISM WITH HYPERPYREXIA FOLLOWING CHILDBIRTH;

## WITH POST-MORTEM APPEARANCES AND REMARKS.

BY ERNEST F. NEVE, M.B.ED., M.R.C.S.,
RESIDENT PHYSICIAN TO THE COWGATE DISPENSARY, EDINBURGH.

MRS. F——, aged about thirty-seven, multipara, consulted me on Feb. 20th, 1883, for considerable uterine hæmorrhage, from which she had suffered on the previous day. She was eight months pregnant. Palliative measures were adopted with success. On March 22nd hæmorrhage recurred, and continued in spite of treatment. Having diagnosed partial placenta prævia, I introduced a sponge tent. The hæmorrhage ceased, and she slept fairly well during the night. The following morning, however, on removing the tent, bleeding recommenced. I then ruptured the membranes, and with the aid of Barnes's bags dilated the os uteri to the size of an orange. Dr. Underhill, for whom I now sent, at once proceeded to perform bipolar version. The contractions of the uterus proving, however, a serious obstacle, the child did not survive.—24th: The patient had not slept at all. Great after-pains; weakness of both legs. Free lochial discharge; transverse colon greatly distended with flatus; pain in the hypogastric region. Temperature 98·4° F.; pulse 78, slightly dicrotic. — 25th: Had passed a quiet night. Lochia had a slightly fetid smell. Pain and swelling of the lymphatic glands at the inside of the right thigh. Temperature 101°.—26th to 30th: Still complaining of weakness in both legs. The pain in the groin and hypogastric region less. Lochia diminished and with less odour; spirits better. A tendency to diarrhœa. Temperature never found to be above 100°.—April 1st: Depression of spirits; complaining of a slight cough, about which she was very nervous. Legs still weak, with pain in the groins on movement. Temperature 101°. During this time milk diet was adopted, with the addition of concentrated soups and small quantities of wine at regular intervals. For the pain and elevation of temperature Battley's solution, sulphate of quinine, and turpentine stupes were employed.—2nd: Patient nervous and anxious; cough more frequent. Slight cold sensations in the back; no physical evidence of pneumonia. Temperature 103·4°. I was sent for suddenly in the evening, and on arriving was told that as she was sitting up to take her medicine she fell back and became insensible. I found her quite unconscious, with paralysis of the left side of the body and clonic spasms of the right. The movement of the right arm was circumduction at the shoulder-joint forwards and from within outwards. The foot was alternately flexed and extended. Eyes open; pupils contracted and equal. Mouth open; tongue and lips dry; cheeks flapping slightly with the respiration, which was stertorous. Temperature 105·4°; pulse rapid, weak, and jerking (106). Sulphate of quinine in fifteen-grain doses was exhibited at frequent intervals. Sinapism over the chest, and the cold douche applied from a height above the head did not restore consciousness. The hair was cut and cold water compresses applied to the head during the night.—3rd: Both arms and legs motionless and flaccid. Right pupil much dilated; left pupil moderately contracted. Respiration stertorous (40); pulse 125; temperature (tested in both axillæ with two thermometers and observation repeated) 108°. Ice was applied to the head, and an enema of quinine administered. The patient died at 11 A.M.

*Necropsy, twenty-five hours after death.*—Gas was seen bubbling up from the nostrils and mouth. Pupil of right eye slightly dilated, and the cornea unusually bright. Rigidity well marked in lower extremities; lividity slight. Abdomen very greatly distended with gas. Brain: Superior longitudinal sinus contained a long decolourised post-mortem clot. The vessels of the vertex injected with dark fluid blood, and their terminations distended with gas. An excess of subarachnoid fluid, which was turbid; vessels of pia mater injected. The internal carotid artery of the right side, immediately below and at the origin of the posterior communicating branch, was completely closed by a firm pale ante-mortem clot. The basilar artery contained three small cream-coloured clots from ¼ to ½ in. long, with rounded ends. These were not impacted, and may have been of post-mortem formation. The cere-

bral substance was injected. Both lateral ventricles contained a small quantity of blood-stained fluid. There was no evidence of anæmia of the right hemisphere. Brain tissue very soft. Heart: Flaccid; almost empty. Endocardium stained very darkly, valves being plum-coloured. The anterior internal aortic valve presented on the ventricular surface a small dark clot, which on removal disclosed a slight roughening of the endocardium. The inner surface of the left ventricle presented a marbled appearance. Spleen: Measured 7 in. by 4 in., very soft. Lungs: Pleural cavities contained no fluid. Both organs very soft, highly congested, with œdematous bases. No consolidation. Bronchial mucous membrane reddened and softened. Liver: Congested and fatty. Kidneys: Both very soft and greatly congested. Stomach and intestines greatly distended with gas; no evidence of peritonitis. Uterus measured 6 in. by 4 in. Ligaments thickened; no evidence of cellulitis. The interior, which had a fetid smell, presented a slate-grey appearance. At the placental site there were two depressed patches measuring respectively ½ in. by 1½ in., with rough granular floor of ash-grey colour; ovaries large and congested. Microscopically the clot from the internal carotid artery showed almost throughout the outlines of the individual corpuscles. It was adherent to the walls of the vessel by granular débris, fibrin, &c.; muscular fibres from the heart were cloudy and fatty. In the lungs some of the air vesicles showed evidence of croupous exudation. There was no thrombosis of the pulmonary veins. Kidneys: Epithelium of tubules greatly swollen, cloudy, and desquamating. Uterus (from the placental site): The inner surface presented the appearance of a false membrane composed of fibrin, leucocytes, compound granular corpuscles, and granular débris. In the kidneys and uterus there were some highly refractile bodies, giving no reaction with osmic acid solution, and not unlike micrococci.

*Remarks.*—References to the state of the body temperature after the occurrence of cerebral embolism are omitted in most text-books of medicine. According to the observations of early writers, especially Cohn, it was formerly believed that following embolic impaction there was both an initial and, for a time, a permanent general diminution of the temperature of the body. Bourneville's observations, on the other hand, have shown that there is a rise (reaching in some cases even 104°) on the second and third days and then a rapid fall.[1] Dr. Hamilton[2] quotes a case of Sokolowski's in which the temperature on the first day was 101·2°, and the next evening 104·8°. In this case, however, there was acute endocarditis. In a case of his own in which embolism occurred during the resolution stage of croupous pneumonia, the temperature was not high till the second day, when it reached 104°. I have, however, been unable to find any case on record in which there was hyperpyrexia. The pulse and respiration of Mrs. F——, contrary to the observations of M. Rosenthal,[3] were found to be both of them unusually rapid. It is, I believe, rare for a case of cerebral embolism to prove fatal within twenty-four hours. It appears to me, therefore, highly probable that the hyperpyrexia was the cause of the anomalies in, and the rapidly fatal issue of, this case. The question next arises as to its origin. The clinical history, especially as regards the persistent elevation of temperature, its steady rise immediately before, at the time of, and after the embolic impaction occurred, and the presence of flatulence with diarrhœa, together with the pathological evidence—viz., the rapid decomposition, the congestion of all organs, the absence of pelvic cellulitis, and the condition of the uterus,—lead me, notwithstanding the fact that in many respects the case ran a very unusual course, to think that some form of puerperal septicæmia was present. The puerperal state of the blood, the morbid condition of the aortic valve, slight though this was, and the unusual strain upon the heart from the high temperature and sudden change of position of the patient, may account for the formation, point, in the absence of pulmonary thrombosis, to the source, and explain the departure of the travelling clot or clots.

[1] Ziemssen's Cyclopædia, vol. xii., p. 200.
[2] Nervous Diseases, 1878, p. 139.
[3] Clinical Treatise on Diseases of the Nervous System, 1878, vol. i., p. 78.

AT Exeter, on the 10th inst., the Mayor laid the foundation-stone of a new Asylum for Pauper Lunatics. The building will cost some £100,000.

## DISLOCATION OF THE STERNAL END OF THE CLAVICLE, BACKWARDS AND UPWARDS.

BY J. HARRY POLAND,
CHIEF MEDICAL OFFICER, SANDHURST HOSPITAL, VICTORIA.

R. G——, aged twenty, was admitted to hospital on Feb. 22nd, 1880. While wrestling with another man, both fell, the patient being underneath. He came at once to the hospital. On admission, the patient complained of pain in the right shoulder and inability to use the right arm; slight difficulty in breathing, and great difficulty and pain in swallowing. He was unable to say in what position he fell. On examination the right shoulder was slightly lower than the left, and projected more forwards; the arm was extended and kept at an angle of about 40° to the body, this being the least painful position. The head was inclined and turned slightly to the left side. There was a well-marked depression at the right sterno-clavicular articulation, and the sternal end of the clavicle could be felt beyond this, and at about three-quarters of an inch higher level than the corresponding articulation, the trachea apparently being pushed to the left side. The line of the clavicle could be felt throughout, and also the vacant sternal articulation. The patient was seated in a chair and reduction effected by placing the knee in the hollow between the two scapulæ, taking firm hold of the upper part of the arm and shoulder, and bringing them backwards and a little upwards. The parts were retained in position by means of a large pad placed over the right scapula, and the right arm bandaged so as to keep it well backwards, the elbow a little upwards, and the forearm folded across the chest. There was some difficulty in keeping the parts in position, and the bandage had to be reapplied three or four times. The head of the clavicle did not completely resume its normal position, and at the end of four weeks, when the patient was discharged, a slight depression could be felt over the articulation. There was, however, not the slightest trace of any upward displacement. The patient has since resumed work, and experiences no inconvenience from the injury.

Beyond the comparative rarity of the lesion, the only point remarkable is the absence of dyspnœa, which in this case was almost complete. This seems to have been due to the head of the bone forcing the trachea to one side, instead of directly pressing upon it. Of all the authorities I have been able to consult I can only find one other case in which dysphagia was the prominent symptom and dyspnœa absent, or nearly so. The case referred to is that of Sir Astley Cooper, in which he removed about an inch of the sternal end of the clavicle to relieve the dysphagia, but in this case the cause of the luxation was spinal curvature. This case is given in both Fergusson's System of Practical Surgery and in Holmes' System of Surgery. Of the other cases quoted, Hamilton, in his treatise on Dislocations and Fractures, gives some thirteen cases, five of which were the result of direct violence, and the remainder by indirect violence; and from various other authors I have collected seven other cases, two of which were the result of direct and five of indirect violence, making a total of twenty cases, seven from direct and thirteen from indirect violence. In one case, Dr. Brown's, of Callington, the cause was a fall in wrestling; but there, as in the present case, it is doubtful whether there was direct or indirect violence, since, when wrestling, men are not likely to be able to say the exact position in which they fall. According to Dr. Brown's case it was indirect, but in the present one, if the man could be relied on as to the position, it was probably direct violence that caused the injury, the patient stating that he fell with his right shoulder against the kerb, while his opponent was immediately above him. In any case, however, this injury seems to be far more frequently the result of indirect violence. Further, it is generally accompanied by dyspnœa, rarely by dysphagia alone, and not unfrequently by both, the former, however, being the most urgent symptom. It is, according to all authorities, seldom completely reduced, and is not unlikely to give some trouble to retain the parts in position. In the majority of cases the displacement is backwards only, and in those in which it is backwards and upwards the upward displacement is

slight compared with the backward. The diagnosis is easily made, and the reduction and treatment similar to that employed in the foregoing case.

Sandhurst, Victoria.

# A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nullasautem estalia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## UNIVERSITY COLLEGE HOSPITAL.

### A CASE OF TUBERCULAR PERITONITIS AND PLEURISY; CYSTITIS; DIPHTHERIA; NECROPSY; REMARKS.

(Under the care of Dr. F. ROBERTS.)

FOR the following interesting notes we are indebted to Mr. Thomas Wilson, M.B., B.S. Lond., late house-physician.

F. T——, aged fifteen, a "stripper" in a telegraph works, was admitted on Nov. 15th, 1883, complaining of pain in and swelling of the abdomen. At his work he had been exposed to draughts and damp, his diet had been deficient in meat, but his clothing had always been plentiful and warm. Until the present illness he had always enjoyed fairly good health, though he had never been robust. The family history was good. About Nov. 1st he experienced a chill, but did not feel unwell till two or three days after, when he became rather drowsy and apathetic. Two days later he complained of pain in the hypogastric and lumbar regions and of headache. Shortly afterwards his abdomen became distended and his appetite failed. The bowels were in a normal state. About this time the patient received a blow on the lower part of the abdomen, causing pain, which, however, soon passed away. About a week before admission he was, he stated, unable to pass urine for two or three days, and the quantity afterwards passed was diminished. On Nov. 9th the abdomen became painful and also more swollen. Since then the man had suffered much from thirst. During the fortnight previous to admission he had experienced much discomfort from external piles. There had been no constipation or diarrhœa.

On admission the patient was found to be a slightly-built, badly-nourished lad, with a sallow and anæmic complexion, and an anxious, fretful expression. He could lie without absolute discomfort in any position, but preferred lying on his right side, with his legs slightly flexed. Temperature 102° F. There was great thirst. Appetite fairly good; no nausea or vomiting. Bowels opened once or twice daily; stools semi-fluid, light in colour, consisting of curdy-yellowish material, with occasional light-green-coloured streaks. Lips dry and cracked; breath very offensive; tongue covered with thick, creamy fur, except at tip and edges, which were red with prominent papillæ. The abdomen was much distended, especially in the upper half; its walls were very tense, and not œdematous; the umbilicus protruded slightly; there was no marked bulging of the flanks. The lower margin of the thorax was somewhat everted. There was slight fulness of the superficial veins. The abdomen felt very tense, the resistance being greater in dependent parts. There was no marked tenderness on manipulation. There was dulness on percussion in the flanks, extending as far forwards as the anterior superior iliac spines when the patient was lying on his back. Each flank became resonant when the patient turned on the opposite side, the dulness then rising on the lower side. Distinct fluctuation was obtained between any two points in the area of dulness. The liver dulness reached as high as the fifth intercostal space in the right vertical nipple-line; the lower border could not be defined by palpation or percussion. The splenic dulness was not increased. Respiration 30, shallow, and thoracic. Slight cough with clear mucous expectoration. No abnormal pulmonary signs. Pulse full, regular, moderately compressible. Heart sounds weak, but otherwise normal. There was no pain, but some difficulty in micturition. Urine acid; it contained no sugar or albumen, but large deposit of amorphous urates on standing.

On Nov. 16th the patient complained of sharp, scalding pain in the abdomen, especially over the lower ribs. On the 17th the urine became alkaline, depositing a large sediment of phosphates. The bladder was very irritable. There was great thirst; no vomiting; slight diarrhœa, with light coloured stools; tongue thickly coated. The temperature varied from 101·4° to 103·2°. The urine continued alkaline till the 23rd, when it was again noted as being acid, and free from deposit and albumen. The abdomen was more tense, but less painful and tender. The thirst and diarrhœa continued. Temperature 101·2° to 103·4°, generally slightly higher in the evening. On the 26th the patient vomited twice. The diarrhœa and thirst continued, but to a less degree. The abdomen was more distended and tense, especially in the epigastric region. The man now began to suffer from troublesome cough and more difficult breathing. On the 28th the patient was stated to have been delirious during the night. There were signs of fluid in both pleuræ as high as the angles of the scapulæ. There was cough with expectoration of greenish glairy mucus, streaked with blood. The diarrhœa was worse. There had been no return of vomiting. Pulse 112, weak, irregular, and rather dicrotic. Temperature 101·6° to 103·6°.

On Dec. 3rd the patient remained in the same condition, except that the bowels were now rather confined. On the 7th the abdomen was distinctly larger and more tense; the signs of fluid at the base of the left lung were much less marked; the man slept better. On the 10th he vomited a little bitter yellowish fluid. On Dec. 14th the abdomen was aspirated, 212 ounces of clear yellowish serous fluid being withdrawn, a portion of which became solid on boiling. On the 17th the skin of the abdomen was hot and dry; there were still signs of a considerable quantity of fluid in the abdomen, and the signs at the bases of the lungs remained as before the tapping. The bowels were opened once daily, the motions being formed. There was catarrh of the nasal passages. On the 18th the urine contained a small quantity of albumen for the first time. On Dec. 19th the soft palate and fauces were found to be covered with thick greyish-white exudation, and the patient was isolated. His breathing was very laboured, on account of the obstruction in the throat and nose. The swelling of the abdomen was increasing. There was some œdema about the ankles. He slept fairly well. Temperature 100·6° to 102·8°; skin hot and dry. On the 20th there was more membrane about the throat; the lips and teeth were covered with sordes; the urine contained a large quantity of albumen. Temperature 101·2°; pulse 120, small and compressible. On the morning of the 21st the pulse was 148; the nasal passages and throat were covered with thick greyish-white exudation. The patient gradually sank, and died from asthenia in the evening.

*Necropsy, sixteen hours after death.*—The peritoneal cavity contained a large quantity of clear yellow serous fluid. The parietal layer of the peritoneum was from a quarter to a third of an inch in thickness, and adherent to the subjacent organs by a thick layer of reddish lymph. The intestines were firmly matted together; on separating them a large number of grey granulations were seen beneath the lymph. The liver and spleen were adherent to the surrounding parts by thick layers of lymph, beneath which the peritoneal coverings were found to be infiltrated with grey granulations. These organs were otherwise fairly healthy, as were also the heart, kidneys, and brain. The mucous membrane of the intestines showed no sign of ulceration or of tubercular deposit. The left pleural cavity contained ten ounces, and the right six ounces, of blood-stained fluid; no adhesions. Over the posterior aspect of the lower lobe of the left lung there was a fine coating of lymph. Over this surface and in the fissure numbers of grey granulations were scattered in the pleura. The right pleura was similarly affected. The lower lobes of both lungs were œdematous. No tubercles were observed in the substance of the lungs. There was an enlarged bronchial gland with caseous masses in its centre at the root of the right lung. Both tonsils, the soft palate, and the epiglottis were covered with a fawn-coloured, pultaceous, easily separable membrane. This extended down the pharynx as far as the cricoid cartilage, and was continued through the larynx and into the trachea for two inches. The glands about the angles of the jaw were enlarged.

*Remarks.*—This case is interesting from the localisation of tubercle in the pleura and peritoneum, no deposit being found in the substance of any of the organs. The diagnosis of the cause of the peritonitis on admission was somewhat obscure; the age of the patient, insufficient diet, and unhealthy occupation pointing to tubercle, while, on the other hand, difficulty in accepting this diagnosis was found in the

absence of tubercle from the family history as far as it could be ascertained, and in the absence of signs in the lungs. The parents were inclined to attach considerable importance to the history of a blow, but this did not seem warrantable. The finding of an enlarged caseous bronchial gland at the root of the right lung is of considerable interest in relation to the etiology of tubercle. That the gland was affected prior to the deposit of tubercle would appear likely from the latter not having undergone fibrous or caseous degeneration. The presence of nasal catarrh was noticed on December 17th, but the presence of albumen in the urine next day for the first time rendered it probable that the nasal affection was diphtheritic. Unfortunately, attention was not drawn to the throat till the 19th, on which date a considerable quantity of membrane was observed. The cause of diphtheria was obscure; no contagion could be traced; the drains connected with the ward in which the patient was placed were not, however, in an unsatisfactory condition. The special receptivity of tuberculous persons for diphtheria is mentioned by Dr. —— in Quain's Dictionary (p. 374).

## WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

### CASE OF PACHYMENINGITIS; NECROPSY; REMARKS.

(Under the care of Dr. TOTHERICK.)

FOR the notes of this case we are indebted to Dr. E. A. Dingley, house-physician.

William H——, aged fifty-seven, a labourer, was admitted on April 27th, 1884. The patient's history was fairly good, but formerly he had indulged rather freely in alcohol. No history of syphilis could be obtained. About the end of March, when at his work, he fell down some steps into a cellar, the depth being about fifteen feet. He was slightly stunned by the fall, and had a deep cut on the left temple, which bled freely, but otherwise seemed none the worse for the accident. The next day he returned to his work and continued at it for four days, and then gave up, complaining of giddiness and of pain in the head, but still seemed in fairly good health. This continued with a slow increase of the symptoms till April 26th, when he left home for a walk, and did not return in the evening, but was found lying in a ditch, paralysed and partly conscious. He was taken to a house, and the next day brought to the hospital.

On admission the patient's temperature was 99°. He was conscious, but very heavy and dull. When spoken to loudly he replied rationally, but did not make any voluntary statement, and could not remember the circumstances of his attack. As regards his motor power, the left arm and leg were paralysed, and also the left facial nerve. The tongue deviated to the left when protruded. The other cranial nerves were normal, and there was no paralysis of the trunk muscles. Sensation was normal, both as to acuteness and localisation. The superficial reflexes were increased; the knee-jerk was very easily obtained in both limbs, and ankle clonus was very well marked on the left side and slightly on the right. The pupils were equal, and reacted to light and to accommodation. He passed his urine in the bed, but retained his fæces. The left limbs were rigid. His arteries were rigid and tortuous, and the pulse slow, full, and regular. The heart sounds were rather weak, but no murmur could be distinguished. Respiration was slow and rather laboured, but there were no abnormal physical signs in the chest. His tongue was clean; there was no vomiting, and the bowels were confined. The abdomen was retracted. Urine was abundant, of low specific gravity, and contained no albumen.

During the first week the patient was in the hospital he improved considerably, and could move his left arm and leg to a considerable extent. He also was able to take light diet. On May 4th he seemed more drowsy and apparently slept all day; on the 5th it was difficult to rouse him, and on the 6th he was in deep coma and could not be roused. His limbs were quite flaccid and motionless on both sides, the pulse was 60 and decidedly irregular, and he had Cheyne-Stokes breathing very well marked. On the 7th he was in much the same condition, except that the breathing was irregular and superficial; and on the 8th he died. As it was an inquest case, the post-mortem examination was delayed for four days.

*Necropsy.*—Rigor mortis passed off; no external wounds or bruises, except an old cut on the left side of the forehead. On removing the calvaria and opening the dura mater the right hemisphere appeared to be covered with blood; this extended all over the convexity of the brain nearly to its base, but was strictly limited to the right side, and did not extend along the falx cerebri. On careful examination this turned out to be a very thin and delicate membrane, translucent and of a yellowish-red colour. It was composed of two layers—one spreading over the pia mater and not dipping into the sulci; and the other and more important one adherent to the under-surface of the dura mater, from which, however, it could easily be stripped off. When removed, the membrane was found to contain in its substance numerous clots of blood, varying in size from a pin's head to a plum-stone. On close examination, many of the larger ones were found to consist of two parts—the one being more recent than the other, which was paler and harder; the clots were more numerous and larger in the vicinity of the vertex; there was no free blood or clots, except those in the new membrane; there was no sign of lymph or pus; the vessels of the pia mater were congested and distended, but not ruptured; the vessels at the base of the brain were healthy. The brain was cut into small slices and carefully examined, but no trace of hæmorrhage or softening could be found. There was no fracture of the skull; the spinal cord was normal; the aortic and mitral valves were thickened, and on one of the cusps of the former there was a small projection about the size of a pin's head. The lungs were very emphysematous and congested at the bases; the liver was of the "nutmeg" variety and the kidneys smaller than natural.

*Remarks.*—This is one of those cases which show the importance and value of a post-mortem in every instance, for if there had been no examination one could never have certainly diagnosed pachymeningitis. The chief points of interest in the case are the severe blow on the left side of the forehead, causing the formation in about seven weeks of the pachymeningeal membrane over the right hemisphere, this causing only slight giddiness, &c.; then came the first hæmorrhage into the membrane, causing the left hemiplegia and semi-unconscious condition in which the patient was found on April 26th. From this he recovered in great part, till a fresh series of hæmorrhages into the membrane on May 5th and 6th caused his death by pressure on the brain. During the whole time his temperature was not over 99°. The occurrence of well-marked Cheyne-Stokes breathing and the retraction of the abdomen are interesting points.

# Medical Societies.

## OPHTHALMOLOGICAL SOCIETY.

*Sympathetic Neuro-retinitis.—Miners' Nystagmus.—Model Apparatus for demonstrating Operations on the Eye.—Congenital Defects.—Cataract Extraction for Lacrymal Obstruction or Catarrh.—Cystic Tumour of Iris.—Head Injury followed by temporary Blindness and Anosmia.*

A MEETING of this Society was held on July 4th, Mr. Jonathan Hutchinson, F.R.S., President, in the chair

Dr. BRAILEY showed a living specimen of Sympathetic Neuro-retinitis.—Mr. NETTLESHIP inquired of the precise order of events in this case.—Dr. BRAILEY said there were no symptoms of disease until March 6th, when the patient received a cut from a jug in the left eye right through the ciliary region. Aching in the right eye began two weeks later, and vision began to fail. One week later vision was $\frac{1}{10}$, the optic disc was slightly swollen, its margins blurred, vessels rather contracted, and some edged with faint white streaks for a short distance into the retina. The vessels near the yellow spot were rather larger and more numerous than usual, and also somewhat tortuous. Since then the vision has improved to $\frac{6}{24}$, but the optic disc has become flatter and more white. The left eye remained *in statu quo*, and no pain had been felt since the first week of the injury.—Mr. HUTCHINSON said that the lapse of only two weeks before the supervention of optic neuritis in the other eye was remarkable.—Mr. ADAMS FROST narrated a somewhat similar case.—Mr. NETTLESHIP asked whether the failure of sight preceded the ophthalmoscopic changes.—Dr. BRAILEY said

that when he first saw the case optic neuritis was present and vision had failed.

Mr. SIMEON SNELL read a paper on the Cause of Miners' Nystagmus, and stated that he had long held the opinion, as the result of clinical experience, that the cause of the disease was to be found in the peculiar manner in which the miner performed his work, whatever secondary influences and other surrounding circumstances might exert. He had seen no evidence to support the theory of central disease, and believed the poor illumination of the safety lamp, and other causes mentioned by writers, were insufficient to account for the affection. He described the various classes of men engaged in a coal pit, and the kind of work performed by them. The disease appeared to be confined to the coal getters. He had previously stated that, in his experience, men suffering from this affection had been engaged in work which necessitated their lying on their sides. Some of the coal getters were employed in this manner in what was termed "holing," the process of driving a cutting under the seam of coal, and the hole made might reach a yard or more underneath the coal. This was done to facilitate bringing down the coal by wedges. The hole made might be only eighteen inches to two feet high, and a man working in this would be cramped up and lying on his side. Further experience had completed the opinion expressed nine years ago, and though cases were constantly under observation, he believed they had all been engaged in the manner mentioned. He stated also that he had descended into a pit, and, as anticipated, found the men occupied in "holing," and working on their sides affected (four out of six examined), whilst other coal-getters and other workers in the pit appeared to be free from it. Other evidence in support of this view was adduced from the cases mentioned in Mr. Oglesby's paper (Transactions of the Ophthalmological Society, vol. i.) and also the opinion of Dransart (Annales d'Oculistiques, 1877) that all the sufferers had worked in shallow inclined bearings. Mr. C. S. Kilham had also, at Mr. Snell's request, examined in Durham over 500 colliers, and found not a single instance of nystagmus; in none of these pits were the men occupied in work compelling their lying on their sides. Dransart had held the disease to be due to fatigue induced in the elevators by the frequent upward gaze of the miners at work. Mr. Snell explained that, working in the manner mentioned, it followed that the eyes were frequently thrown into an oblique position upwards to the left or right—a position much more fatiguing than simply looking upwards. The muscles affected would thus be the superior rectus, the inferior oblique, left internal rectus, and right external rectus, if looking to the right, or substituting the right internal rectus and left external rectus if looking to the left. He considered the nystagmus arose under conditions recognised as "chronic fatigue" in other regions, and analogous to writers' cramp, &c. Recovery took place if the patients ceased their work in the pit in a variable time; it was quite possible that changing the manner of work would be quite sufficient. Strychnia and other remedies appeared to be useful adjuvants.—Mr. JONATHAN HUTCHINSON said that he believed Mr. Snell had come nearer to the position taken up by Mr. Oglesby than he seemed to think. With regard to causation, the miners in Cornwall did not work long hours, had good light, and adopted the sitting posture. Amongst these nystagmus was practically unknown. The analogous affection known as "writer's cramp" was most probably due to some fatigue of the nerve centre. Mr. Oglesby had pointed out that with some cases of miner's nystagmus a form of epilepsy was associated; and, further, some patients had been relieved by the use of bromide of potassium. Mr. PRIESTLEY SMITH said that he agreed in a great measure with Mr. Snell, but he would be inclined to lay more stress on some points on which Mr. Snell laid less. As to whether peripheral or central disturbance of function was the cause, he would say that the affection was invariably bilateral and symmetrical, although unequally so. He should look upon the affection as due to a perverted nutrition of the centres in the brain; he thought that this view was borne out by the fact that the nystagmus was rotatory in one case which he had seen. It ought to be remembered that stimuli received from the retina had a great deal to do with fixing the attention on any object. Most favourable conditions for malnutrition existed in the surroundings of the miners, which further made fixation of the eyes exceedingly difficult. Instances were given tending to show that the nerve centres lost their good vigorous action in the absence of well-formed retinal pictures. Such states of ill-health as anæmia, aided by the horizontal posture, and any condition of nervous exhaustion would favour the production of malnutrition of the centres.—Dr. BRAILEY considered that little doubt could be entertained that muscular fatigue rather than any defective nutrition of the nerve centres was the fault. If anyone looked up and to the left continuously, he would find that the eyes would become nystagmic.—Mr. NETTLESHIP asked how cases of unilateral nystagmus could be explained on the central theory where the eye was blind or vision defective.—Dr. STEPHEN MACKENZIE thought that we could not separate the fatigue of the muscles from that of the energising centre. He was of opinion that it was a central disease. In all muscular action there was a balance of antagonistic action, and a more careful adjustment would be required in those cases where the men worked on their sides, so that the balance of antagonism could be more easily disturbed and the muscles most in action would be found to fail first. The occurrence of nystagmus in cases of central nerve disease—e.g., disseminated sclerosis—favoured his view.—Mr. ADAMS FROST drew attention to the difference of practice which prevailed in different mines. Where the Davy lamp was not in vogue nystagmus was not found. The miners assign the lamp as the cause, but it was probable that the causes which led to the use of the lamp also developed the nystagmus.—Dr. BREVOR expressed his belief in the central origin of nystagmus, as was certainly the case in disseminated sclerosis. Mr. PRIESTLEY SMITH explained unilateral nystagmus by supposing that one centre of the bilateral nucleus may be atrophied.—Mr. MCHARDY considered that the unnatural use and fatigue of the muscles used might lead to a condition of diminished conductivity of the nerves involved.—Mr. SIMEON SNELL, in reply, urged that although both eyes were affected yet it could not be denied that one eye was always worse than the other. As Mr. Hutchinson had explained, Oglesby's view more especially dealt with the notion that a congestion of the central apparatus was at work, and not that position was the essential factor.

Mr. J. F. STREATFEILD showed a Model Apparatus for demonstrating Operations on the Eye. After commenting on the difficulty of demonstrating ophthalmic operations to a large class owing to small dimensions of the organ, and the impossibility of all the members of a class of students catching even a glimpse of the manipulations, he explained the construction and uses of a large model made for him by Hawksley, of Oxford-street. The model was made on a scale exactly ten times that of the actual eye, and the models of the eye instruments were on the same scale, excepting the handles of the instruments, which had been altered and shortened. The apparatus allowed of a fair amount of rotation in every direction, and the front hemisphere of the eye could be fixed in any desired position. The sclerotic and the eyelids were constructed of white felt. The cornea was made of stout glass of the right curvature. The iris was imitated in thin sheet indiarubber, with a round hole for the pupil. The cataractous lens was made of xylonite. The internal and external rectus muscles of the eye were represented by pieces of linen bandage. With this apparatus could be represented the *modus operandi* of the peripheral section of the cornea, of iridectomy, of extraction of cataract, and of squint operations. The anterior chamber could only be entered for iridectomy, cataract extraction, &c., in the usual place, at the sclerotico-corneal junction. Here, at any part of the upper half-circumference, the knife, forceps, pricker, or curette could be entered between the felt sclerotic and the glass cornea, which gave way for their admission, and resumed its natural position when the instrument was withdrawn. The sheet indiarubber of which this imitation iris was made could be seized with the (model) iris forceps at any part, drawn out of the eye more or less, and so much cut off as might be desired in the demonstration. Mr. Streatfeild illustrated his remarks by performing a cataract extraction on the model.

Mr. J. F. STREATFEILD read a paper on a Preliminary Precaution to be taken in cases of Cataract Extraction when there is, or has been, any lacrymal obstruction or catarrh. The operation, in such cases, involved an almost certain failure of the worst kind; and as the cause of failure in these cases had been overlooked or misunderstood, this catastrophe seemed to have been almost as inevitable as it was complete. When suppuration followed purulent infiltration of the corneal wound, when it occurred as the direct and immediate consequence of the extraction operation, it was the common, almost

invariable, beginning of the suppuration of the whole eye. These cases were of course not common, because the absolute loss of an eye after cataract extraction operation, from any cause, was a rare event; but absolute loss of vision was, as a rule, the result of suppuration. He had had two such cases within the past year—one in private practice, and the other in Moorfields. The cause of this suppuration after cataract extraction, he was inclined to think, was generally some lacrymal obstruction, and secretion of purulent matter from the outlets of the tears in connexion with the eye operated on. No surgeon would think of operating for extraction when there was any lacrymal catarrh, or at least when there was any purulent regurgitation from the lacrymal sac, or indeed, any pus of any kind, or from any part of the mucous surfaces within the palpebral aperture; but the state of the lacrymal mucous membrane was difficult to investigate, and it was liable to be considered to be in a healthy state when it was not so. A purulent discharge from either mucous tract, but especially from the lacrymal mucous membrane, was likely to recur at any time, especially if an operation on the eye had been done. An inconspicuous quantity of pus would be sufficient to infect the corneal section. In the case of J. L——, a thin and healthy countryman, aged sixty-eight, admitted into Moorfields Hospital on July 4th, 1883, with mature cataracts, both the lower lacrymal puncta were somewhat everted, and, consequently, there was an overflow of the tears in either eye. The lower canaliculi were slit. Pus was found in the lacrymal sac on either side. After this the nasal ducts were probed every day, or nearly every day, for ten days, and the cure seemed to be complete. On July 16th the left cataract was extracted. On the day after the extraction a purulent infiltration of the wound at the upper part of the cornea had begun, and spread rapidly thence; the eye was very soon lost for all practical purposes, and on July 23rd it was excised. The patient left the hospital on August 2nd. On November 24th he was readmitted; there was some lacrymation of the right eye, but no evidence of any pus in the discharge from the sac at this time. The lower canaliculus, which had been slit, was patent. The eye was in all respects healthy with the exception of the opaque lens. Now, this was a very unsatisfactory state; there was no difficulty in passing the large probes and there was no pus to be seen in the discharge, but recovery was not complete. Mr. Streatfeild resuscitated the old operation for the total obliteration of the lacrymal sac, the canaliculi, and all the lacrymal mucous surface, which used occasionally to be performed twenty years ago for chronic obstinate discharge from and distension of the lacrymal sac, from obstruction of the nasal duct. On December 10th the upper canaliculus of the right eye was slit from the puncture to the lacrymal sac; when the bleeding had stopped the eyelids were held widely apart, the eye itself being covered and protected, and the pointed end of Paquelin's thermo-cautery was passed rapidly in the direction of first one and then the other canaliculus, along them, and quite into the sac. He then made a skin incision over the lacrymal sac, rather longer than the whole of its extent, downwards and a little outwards, between the root of the nose and the lower eyelid; this was then continued into the mucous cavity itself; and, when the bleeding was arrested, the two edges of the deep incision were held widely apart, and the broader end of the cautery was very freely and repeatedly applied to all parts of the exposed mucous surface, from the top to the bottom of the sac. The cavity was stuffed with carbolic oiled lint. On January 1st the wound had healed, and the sac and the canaliculi were apparently obliterated. There was a slight lacrymation, but there was no pus or any muco-purulent matter in the eye. On April 23rd he was again admitted. There was then a depressed scar in the place of the lacrymal sac, and a small hole leading down that direction; there was also an indication of a part of the lower canaliculus. The following day the cautery was again applied to the fistulous orifice and to the remains of the lower canaliculus, and on May 8th for a third time. On May 20th there seemed to be no trace of the canaliculi remaining, and no indication left of a lacrymal sac. There was now no discharge upon the conjunctival surface at any time; the flow of tears was not much, and it was no longer troublesome. On June 2nd the cataract of the right eye was extracted. The eyelids were washed with a one in forty solution of carbolic acid before the operation, and boracic acid ointment, ten grains to one ounce of vaseline, was smeared on the dressing. A weak solution of boracic acid was used subsequently every day to bathe the eye, and the same ointment was reapplied with after-dressings. Slight ciliary congestion with photophobia occurred about a fortnight after the operation, but the patient made a good recovery. The objections to the obliteration of the lacrymal sac were not practically very strong; and, in the cases in which he advocated a revival of this obsolete practice, it seemed to be absolutely necessary in order to succeed in operating for cataract subsequently.

Mr. SIMEON SNELL related the following cases of Imperfect Development. 1. Congenital cysts in the lower eyelids with (apparent) anophthalmos. The patient was an infant of a few weeks. In the left lower eyelid a large cyst, with bluish tint, was situated; it extended deeply into the orbit. On being tapped the fluid escaping was straw-coloured, and corresponded, on analysis, to that examined from similar cases recorded as "congenital cysts with anophthalmos." Subsequently the cyst wall was partially excised, and it was thought a rudimentary globe was detected at the back of the orbit. In the right lower eyelid, at first, there seemed to be a very small cyst; it was not tapped, and a year later it was hardly apparent. Here also a resistance, particularly at the later period, was detected in the orbit, and was thought to indicate the presence of a rudimentary globe. Both orbits were normally developed. 2. Congenital cyst in lower eyelid with micro-ophthalmos; the infant was under the care of Mr. W. M. Jones of Wath. The cyst filled the orbit. After dissecting it out, a micro-ophthalmic eye came into view. The cornea was well formed, there was a coloboma at the lower part of the iris, and the eye was possessed apparently of some vision. An ophthalmoscopic examination was made, and, as far as could be made out, the child was almost moribund with tubercular peritonitis. The coloboma extended into the choroid, but did not reach to the optic disc. The cyst in the eyelid presented a bluish tint; the fluid was straw-coloured. Mr. Snell quoted the recorded cases, and remarked on the various causes assigned for the origin of these cysts by Talko, Manz, Van Duyse, and others. The theory advocated by Van Duyse, that they arose from the encysting of a staphylomatous coloboma, was held to correspond with their association with micro-ophthalmic or rudimentary globes. 3. A case of absence of eyeball on one side. 4. Micro-ophthalmos of the left eye, with coloboma of the optic nerve-sheath, and coloboma of the choroid in the right eye. The fundus in the left eye displayed the rare condition described as coloboma of the optic nerve-sheath; the coloboma was six or eight times the size of the optic nerve, perhaps being the largest recorded on the left side. V = fingers, possibly more; on the right, V = $\frac{1}{36}$. Between the optic disc and the periphery below, a pearly white patch was situated; the edges were well-marked and pigmented; otherwise the fundus was normal. This was considered to be congenital, and to be due to arrest of development (coloboma of the choroid). In neither eye was there a cleft of the iris, nor any deformity beyond those named. Nystagmus, affecting both eyes, was present. 5. Remains of hyaloid artery. The attachment to a vessel in the centre of the optic disc was clearly made out; at this point it was a little more funnel-shaped. Anteriorly, it was attached to the posterior lens capsule, where it occasioned a striated opacity. V = fingers at one foot. The eyes were myopic. 6. Coloboma of upper eyelid, situated at the junction of the inner with the middle third. There was also a lipoma of the conjunctiva.

Owing to the lateness of the hour, the two papers of which we are able to give the following abstracts were taken as read.

Mr. W. J. CANT, of Lincoln, related a case of Cystic Tumour of the Iris. The patient was a man, aged forty, suffering from loss of vision of the right eye, which prevented him from following his occupation; when a boy it had been injured by a piece of steel, but apparently it completely recovered. About three years ago his eye again began to trouble him, and he noticed soon after something growing over the sight which gradually increased. On examination, a cystic tumour was seen almost filling the pupil, growing from the iris at the upper segment. V = $\frac{1}{24}$, and he read Jaeger 16 with difficulty. A fundus reflex could be obtained through the tumour. The tension of the eyeball was increased (Tn+1 or 2). His left eye was almost useless from opacity of the cornea. The tumour, with a piece of iris, was removed through an upper section, and afterwards an iridectomy downwards was made. The eye completely recovered with good vision, V = $\frac{1}{8}$ and Jaeger 2.

Mr. CANT also contributed a paper on a case of Injury of Head, followed by temporary Blindness and Anosmia. The patient, a potman, threw himself out of a window a height of 40 ft., and was taken up in an unconscious state. He regained partial consciousness, and then became violently delirious. After the swelling of the eyelids had passed off, he was found to be absolutely blind, and ophthalmoscopic examination revealed engorged optic discs. Loss of smell was also noticed at this time. In a few days the sight improved, and at the end of six weeks was quite restored. The anosmia, however, remained. The probable cause of these losses of sensory activity was hæmorrhage in the middle and anterior fossæ.

Mr. SIMEON SNELL showed a section under the microscope of a specimen of Bony Tumour of the Conjunctiva. It was removed from the right eye of a girl aged thirteen, and had probably existed since birth, but had caused no inconvenience until shortly before she came under observation.

Dr. WALTER EDMUNDS exhibited an ophthalmoscopic drawing from a case of Cerebral Tumour presenting appearances like those of albuminuric retinitis. There was well-marked double optic neuritis with hæmorrhages round the disc, there were also bright radiating lines at the yellow spot. The retinal veins were not tortuous.

Mr. LANG showed a child with a growth on the Iris of a possibly Tubercular nature. The eye had been noticed to be a little bloodshot about the middle of May. When first seen a month ago there were several growths on the lower part of the iris, and the cornea was hazy, the growths had since been steadily increasing in size, and there was pus in the anterior chamber.

Mr. A. CRITCHETT exhibited a patient with Conical Cornea on whom he had operated. Also, with Mr. TYLER, he exhibited a case of Squint cured by operation, and a leucoma of the cornea treated by tattooing, and the formation of an artificial pupil.

Mr. W. ADAMS FROST showed two cases of Double Optic Neuritis in Children. In the one case, which was a girl aged ten, the failure of vision had been preceded for several months by very severe headaches, accompanied by vomiting, and these still persisted. There was slight paresis of the left external rectus, but no other paralytic affection. The knee reflex was normal. The patient was a very healthy looking and intelligent child. There was no history of any personal illness or family tendency. The other was a girl aged seven. When first seen on May 1st, vision was said to have been failing a week. There was well-marked papillitis in both eyes. No history of headache or illness could be obtained at the time. A few weeks later the child was attacked with severe occipital pain and vomiting, and the headaches without vomiting have recurred frequently since. There seemed to be no paralysis of any ocular muscles. The left eye has improved slightly under small doses of mercury.

## ACADEMY OF MEDICINE IN IRELAND.

AT a meeting of the Medical Section held on April 18th, Dr. J. W. MOORE read an abstract of Surgeon-Major GORE'S paper on the Etiology of Climatic Fevers in India, which was before the section *in extenso* at the previous meeting, when, owing to the lateness of the hour, the discussion was adjourned. Surgeon-Major Gore showed that the common climatic fevers of the Kumaon Hill Ranges of N.W. Bengal presented themselves under two very distinct forms—namely, as intermittents and remittents. He disputed the doctrine held by some that remittent fevers were not to be met with in India as distinct from enteric fevers, and quoted briefly a description of the severe epidemic of malarial fever which prevailed in the neighbouring N.W. Provinces in 1879, which differed in no respect from that met with in many parts of Lower Bengal. Having alluded to the aqua-malarial fevers of the mountain regions of North America, as described by Waggoner and Smart, he referred to the observations of Macnamara and Walker on the presence of malarial fevers in the hills in India, and to the great varieties in the degree and severity of the types of malarial fever, which often obscured the diagnosis between malarial and enteric fevers. He showed how malarial fevers varied in intensity and duration according to the dose of the poison, exposure to intense heat, individual peculiarities of constitution, different altitudes, the causes of scurvy or acquired anæmia from a previous residence in the plains, giving examples from the records of the 30th Regiment. At the same time he pointed out how the malarial fever might ascend; in how many different ways it might be taken into the system; how the quinine test might be vitiated by a variety of circumstances, and what therapeutical combinations were necessary to render it effective, alluding to those congestive remittents caused by an excessive dose of the poison on the nervous system or blood, so altered from the natural standard as not to be amenable to any therapeutic combination which might be administered to avert a fatal issue.

Dr. J. P. DOYLE read a paper on a case presenting some symptoms of Disease of the Bladder. A gentleman, aged sixty-eight, came under his care in May last for irritability of the bladder and pain along the urethra, especially about an inch from the orifice. He consulted a London specialist, who from the symptoms expected to have found a calculus, but afterwards diagnosed enlargement with hardness of the right bone of the prostate, which he said by pressure on the nerves produced the pain, numbness, and lameness in the right lower extremity from which the patient suffered. He also informed him that he would not be free from the pain during his life. On January 18th inflammatory symptoms with great increase of pain set in. The slightest touch or movement produced increase of pain with contraction of the muscles of the thigh, which in a few days became very tense and swollen, and later on some stercoraceous vomiting ensued along with great tympanitic distension of the abdomen. The patient obtained great relief from puncturing the abdomen with the needle of a veterinarian's hypodermic syringe in the position of the ascending colon, which allowed the escape of a large quantity of very offensive gas. On post-mortem examination no calculus was found, and the bladder and prostate were normal. The veru montanum appeared enlarged; the cæcum, ascending colon, and vermiform appendix were found inflamed. The former were distended, and contained dark-coloured matter like moist charcoal, and the latter was filled with a hard mass, which on fracture looked like charcoal.—Dr. MORE MADDEN considered that all the symptoms pointed to disease of the bladder, including displacement of the cæcum, which gave rise to an amount of trouble sometimes under-estimated.

Dr. J. MAGEE FINNY read a paper illustrating the Identity of Progressive Muscular Atrophy and Progressive Bulbar Paralysis. The subjects of this communication were men of the labouring class, both from the country—one aged fifty, the other thirty-nine—who came under his care in the spring of 1882. The duration of the disease was seven and nine months respectively. In both disease began, without any discoverable predisposing or exciting cause, in the tongue, by impairment of speech and difficulty of deglutition, and after five or six months evidences of progressive muscular atrophy were perceived, although it was very probable that its occurrence was considerably earlier. The bulbar symptoms were extremely well-marked in each, though one differed from the other by the amount of glossal atrophy and the involvement of the lips. Fibrillary movements were noticed in the tongue of both, and in the lips of one. The constant dribbling of saliva, the difficulty of pressing the lips to blow smoke or spit, the difficulty of carrying the particles of food to the back of the mouth, were all well-marked, while speech was reduced to "aye" and "no" in one patient and to a few monosyllables in the other. In both the dentals and labial letters were impossible, and in one suffocative attacks from the food entering the larynx were frequently imminent. The amyotrophic changes were well marked in the neck and upper extremities of one and of both arms and legs in the other. Fibrillary movements were most distinctly seen in all the paralysed muscles. Sensation and tendon reflexes were unimpaired, and there was no paralysis of the bladder or rectum. In one treatment by barium chloride and frequent galvanism and faradaism seemed to arrest the progressive muscular atrophy, and even to restore to the deltoids the power they had lost, while the bulbar symptoms remained unaltered, though not increased. The other case was rapidly wasting, and the bulbar symptoms were worse. Both cases left the hospital, and their future progress was unknown.—Dr. C. J. NIXON observed that in bulbar paralysis there was always to be found a constant lesion in the motor roots of the nerves and the motor ganglia and the medulla. In all the post-mortem examinations there had been found constant trophic change in the motor roots of the nerves, whereas in nineteen recorded cases of progressive muscular atrophy no change whatever was found in the motor roots. Another pecu-

liarity was that the first sign was the atrophic condition of the muscles, while there were some cases recorded where, with distinct bulbar paralysis, there was no atrophy of the muscles at all. The absence of atrophy of the muscles could be explained by assuming the disease to be confined to the motor cells in the anterior grey horns, while the trophic cells in the neighbourhood had escaped the disease.—Dr. FINNY, in reply, acknowledged that Dr. Nixon had touched more points than he had dealt with in his communication; but he thought it was hardly time yet to come to any positive conclusion in comparing the two diseases, the number of observations on progressive muscular atrophy being much larger than that on bulbar paralysis.

Mr. STORY read a paper on Atrophy of the Nerves, and Paralysis of the First and Fifth, from probable tumour in the brain, the discussion of which was postponed to the next meeting.

## CAMBRIDGE MEDICAL SOCIETY.

AT a meeting of this Society on June 6th, Mr. ROPER related a case of Cerebral Hæmorrhage simulating Opium Poisoning. Mrs. W——, aged sixty, had for many years suffered from renal stricture, for the relief of which she had been accustomed daily to use laudanum by enemata, using about sixteen ounces during the fortnight. About six o'clock P.M. on Thursday, Feb. 28th, she complained of feeling ill, different from anything she had ever before experienced, with pain at the back of her head and giddiness. She appears to have retched, although she did not actually vomit. She made several ineffectual attempts to swallow tea. Mr. Roper saw her about twenty minutes after nine, when she was in a state of profound coma. Upon inquiry he was informed that she had been unconscious since about eight o'clock. The limbs were flaccid, the eyelids closed, and the mouth open. The breathing was infrequent and noisy; the pulse full, forcible, and between 70 and 80 a minute. The carotids pulsated visibly. The pupils were minutely contracted, and sensibility was in abeyance. Towards the end the respirations became still less frequent, the pulse intermittent, and finally very feeble, but continuing to beat for two minutes after respiration had ceased. She died about ten o'clock. The post-mortem examination was made at a quarter to five on the following day. Rigor mortis had set in. The brain was removed and the membranes found much congested, and there was an area of great congestion upon the surface of the brain in the position of the left parietal eminence. There was a clot of the size of a large walnut occupying the centre of the right cerebellum. Mr. Roper brought this case before the Society, as the symptoms bore so close a resemblance to those which occur in opium-poisoning, and the case was therefore interesting from a medico-legal point of view, and as showing that it is not wise to place too much reliance on circumstantial evidence. This case differed from one which came under his notice two years ago, in which he found a small clot in the pons Varolii, in that consciousness was much longer retained, and the pulse remained full, regular, and firm till nearly the end; whilst in the other case, profound coma occurred almost immediately, and the pulse was extremely feeble and rapid.

Mr. CARVER alluded to the Treatment of Nævus with Ethylate of Sodium. He had tried it very successfully in several cases. It was easy of application and gave little pain. It should not be applied too freely or sloughing would ensue, but just enough to discolour the skin; then in about ten days the crust should be separated. After repeated applications, the blood is coagulated and a puckered mark remains. This after a time disappears, and there should be little or no scar left.

Mr. WHERRY showed a specimen of Fracture of First Rib, with Pressure on Subclavian Artery, which was taken from a patient who fell from a brake-van of a ballast train; the wheels crushed his legs so that both had to be amputated. Fever and delirium followed, the flaps partly sloughed, and the patient died three days after admission to the hospital. During life his breathing was quick and shallow. His chest was carefully examined, but no fracture of the rib could be discovered. There was a slight bruising about the left clavicle, and a musical systolic bruit heard just below the middle of that bone. There was dulness on percussion in this region. The radial pulse was alike at both wrists. After death the first rib on the left side was found to be fractured, the line of fracture running very obliquely from the tuberosity behind to the tuberosity in front. The subclavian artery was pressed upon by a displaced portion, and a great quantity of blood was extravasated about the vessels and fractured rib. The clavicle was not broken, nor were any of the other ribs. The left chest was full of bloody fluid, and the lung collapsed and consolidated.

Dr. BRADBURY showed portions of the Small and Large Intestines removed from a man who had died of Typhoid Fever, and afterwards read the notes of a patient, aged twenty-six, a plumber, under his care in the hospital suffering from Bright's Disease. In addition to his other symptoms, he had frequent attacks of colic and passed blood by the bowel. He was very ill when admitted on January 1st, suffering from dyspnœa and great debility, the urine containing much albumen. On the 13th he passed a quantity of blood in the night, followed by severe abdominal pain. On February 5th he suffered from severe pain over the heart, and after great distress died suddenly. Post-mortem: The kidneys were enlarged and firm, the capsules slightly adherent. The left pleura contained much fluid, and the heart was dilated and hypertrophied. The intestines were congested in many places. In the lower half of the small bowel were numerous patches of submucous hæmorrhage. In the upper part of the ileum were three small ulcers close together, the largest about half an inch long by one-eighth of an inch broad, superficial, the edges ragged but not undermined. The submucous tissue around was deeply stained with blood, and the ulcer appeared to have its origin in a hæmorrhage similar to that found elsewhere. Dr. Bradbury said that ulceration of the intestines was rare in Bright's disease. He thought it probable that the hæmorrhage into the submucous tissue was the cause of the ulceration, there being great tendency to hæmorrhage in the disease. He referred to cases recorded by Dr. Dickinson, in all of which the patients were under twenty-one, exceptionally young for granular kidney. His patient was only twenty-six.

Dr. HUMPHRY showed the Head and Neck of the Femur from an old woman which had been sent to him to prove that, as was usually accepted, the angle of junction of the neck of the thigh bone with the shaft was smaller in aged persons than in the adult. He believed this to be quite an erroneous notion, and indeed this specimen did not show it to be the case. What had occurred in this instance was that there had been disease and absorption of the upper part of the head, while new bone had been deposited on the under surface, so causing the appearance of alteration of the angle. Dr. Humphry thought it probable that the angle varied to a slight extent in different persons, but he could not allow that any change of this kind occurred from old age. It would be quite unique, for he was not aware of any such alteration of form occurring in any other part of the skeleton from this cause. He had in his possession the femur of an old woman aged 103, and the angle was as open as in the adult.

# Reviews and Notices of Books.

*An Introduction to Pathology and Morbid Anatomy.* By T. HENRY GREEN, M.D., Physician to Charing-cross Hospital, &c. Sixth Edition. London: H. Renshaw. 1884.—The issue of the sixth edition of this work indicates its deservedly sustained popularity and value. It is not many years since the first edition appeared as "a boon and a blessing" to those who, then but tyros, are now representatives of pathological science in England. Fifteen years ago there were scarcely half a dozen serious students of pathology and morbid anatomy in England; there was certainly no distinct school. Now the votaries to these studies may be counted by hundreds, and the work done by many of them will bear comparison, as regards its thoroughness, ingenuity, or utility, with that of the best continental investigators. Dr. Green's book was a pioneer of the new movement, and it has done much from time to time to consolidate this enviable progress. It will therefore be a double pleasure to those who have not forgotten their early debts to find that the demand for Dr. Green's manual continues as great as ever, and that the author's ardour remains unabated.

The new edition has been carefully revised and brought up to the level of contemporary knowledge. Dr. Green acknowledges with satisfaction the co-operation of Mr. Stanley Boyd in the preparation of this edition. This gentleman has contributed the general introductory chapter and the chapters on Tumours, Degeneration, Septicæmia, Pyæmia, and Vegetable Parasites, including Bacilli. Every one of these articles is excellent. Though Dr. Green's manual has now two or three formidable competitors, we may confidently recommend it to the medical student and practitioner as altogether the best in our language.

*The Extra Pharmacopœia of Unofficial Drugs, &c.* By WILLIAM MARTINDALE, F.C.S., and W. WYNN WESTCOTT, M.B. Lond. Third Edition. London: H. K. Lewis. 1884.—The rapidity with which this excellent little work has passed through two editions testifies to its utility, as well as to the really remarkable attention that is given to pharmacy in the present day. Nor need the near approach of a new edition of the British Pharmacopœia at all interfere with the domain covered by Mr. Martindale's book, for it is safe to say that but a very small proportion of the drugs and preparations here described will as yet find a place in the official list. The compilers of the British Pharmacopœia are likely to err on the side of caution and conservatism, and will hesitate to include many useful remedies on the score of their novelty. Therefore we think that an extra pharmacopœia will always be of use, and if, as seems likely, the present work continues on its successful career, practitioners will be enabled to estimate at their true value many a novelty which might otherwise be neglected. Doubtless several of these new remedies enjoy but an ephemeral period of favour, but besides these there are many that will endure and will replace older and less efficient drugs. To enumerate the whole list would be to reproduce the index of the volume before us; but a selection of the following from its pages shows how various are these new remedies, which have gained considerable acceptance:—Abrus (jequirity), boroglyceride, bromide and iodide of ethyl, caffeine, chinoline and kairin, convallaria, homatropine, duboisin, emetine, erythrophlæum (casca bark), eucalyptol, hamamelis, hydrastin, iodoform, iridin, menthol, muscarine, not to mention the widely known salicine compounds and special preparations of drugs of old-established use. A great merit of this book is its conciseness, and the addition to the description of each drug of recorded experience of its effects. The index, which comprises a detailed "therapeutical" as well as a "posological" part, is also a feature; and it may be said of the book, with more truth than the phrase often conveys, that it should be the constant companion of every practitioner.

*A Synopsis of the Bacteria and Yeast Fungi.* By W. B. GROVE, B.A. London: Chatto and Windus. 1884.—This synopsis of the bacteria and yeast fungi and allied species (schizomycetes and saccharomycetes) has been drawn up by the hon. librarian of the Birmingham Natural History and Microscopical Society. The aim of the little work is almost purely morphological. The first two chapters are translated, with additions (the more important of which are indicated), from Dr. G. Winter's edition of "Die Pilze" in Rabenhorst's "Kryptogamen-Flora." The book must be regarded as of much value as a work of reference, for it is decidedly learned and elaborate.

*Homburg vor der Höhe, a Health Resort.* By H. S. C. W. HEYD, M.D. Pp. 63. Homburg vor der Höhe: Steinhäusser. 1884.—This little work contains a good deal of miscellaneous information respecting Homburg. After a brief historical notice of the spa from the beginning of the seventeenth century to the present time, the author gives an account of its climate as a health resort, and of the situation and composition of its mineral springs, which are of two kinds, chalybeate and saline. After some observations on the principal components of the spring, he enumerates briefly the diseases in which he thinks they may be used with advantage, and those in which they are contra-indicated. The latter are diseases of the bronchi and lungs, especially tubercular; diseases of the heart and its vessels, dropsical affections, softening of the brain, and acute inflammatory processes. The Kur establishments are described, and the dietary to be observed by the patients is detailed. The latter part of the work is devoted to an account of Homburg and its neighbourhood, with the excursions which may be made by visitors, and the amusements provided for them during the season. The book has been translated from the German by some one evidently not used to such work, and might easily be improved in its style, but it contains information which may be useful to those who are desirous of sending patients abroad to take a course of mineral waters. We are disposed to think that Dr. Heyd considers the waters applicable to too extended a class of cases, but he furnishes information which may enable physicians to decide whether they are likely to prove useful to the patients under their care.

*Wiesen as a Health Resort in Early Phthisis.* By A. T. WISE, M.D. London: Baillière. 1883.—This book has been written to bring to notice a new Alpine health resort. Wiesen is situated about eleven miles from and about 334 ft. lower than Davos. The mean temperature is said to be two or three degrees higher, and the winter to be shorter than at Davos. It lacks, however, many of the comforts of the latter, and is defective in some of the most important sanitary arrangements. "Promises are made that these defects will be remedied;" but we think it would have been judicious to postpone the publication of this book till these promises had been fulfilled. There are a number of meteorological tables relating to the period from Nov. 1882 to March 20th, 1883, but as we are informed in the preface that they "were made in a winter unprecedented in ten years," we fail to see how they can be useful. There is also a table giving the ages at death of the inhabitants since 1834, with a view to show how many deaths occurred at advanced periods of life, but as there is no information given of the numbers living at each age during the period, it is absolutely of no value, and may possibly be misleading. We do not think the remarks on clothing, diet, exercise, &c., add anything to the existing knowledge on these subjects.

*The J.E.M. Guide to Switzerland. The Alps, and how to see them.* Edited by J. E. MUDDOCH. Pp. 416. London: Wyman and Sons, 1884.—*The J.E.M. Guide to Davos Platz.* Edited by J. E. MUDDOCH. With Analytical Notes on the Food, Air, Water, and Climate. By PHILIP HOLLAND. Third Edition. Pp. 135. London: Wyman and Sons, 1884.—The first of these works is the fourth edition of a very good practical guide to Switzerland. It appears to contain the information which a tourist requires without being overladen with unnecessary details, and is of a portable and convenient size. The hints to travellers and the general information prefixed to the guide are judicious, and will amply repay the careful study of anyone intending to visit Switzerland. We have no hesitation in recommending it as a valuable guide book; it has also the advantage of a copious index.—The Guide to Davos Platz by the same editor gives a very good description of the place, its climate, accommodation, and amusements. In addition to all the necessary information respecting the routes by which it may be reached, there are two interesting papers by the editor on Alpine Climbing in the Winter. Written from a non-professional point of view, but with an evident appreciation of the importance of good sanitary surroundings, this little work appears to us to afford all the information required to enable the members of the profession

to judge of the value of Davos Platz as a health resort and of the precautions which it is necessary or advisable to impress upon patients sent there in the hope of arresting the progress of pulmonary disease.

*The Riviera, or the Coast from Marseilles to Leghorn, including Carrara, Lucca, Pisa, Pistoja, and Florence.* Illustrated with Eight Maps and Six Plates. By C. R. BLACK. 8vo, pp. 284. Edinburgh: A. and C. Black. 1884.—This is a very good guide book to the stations of the Riviera from Marseilles to Leghorn. It does not treat of them from a medical point of view, but affords all the information necessary for travellers generally, the means of locomotion, the hotels and boarding-houses, the excursions which may be taken from each of them, and the places of interest which may be visited. The maps and plans have been carefully prepared, and the volume is altogether worthy of the reputation of the publishers. It has the great advantage of containing a large amount of really useful information without being either tiresome or too large to be conveniently used as a handbook.

*Health Exhibition Handbooks. Water and Water Supplies; and Unfermented Beverages.* By JOHN ATTFIELD, Ph.D., F.R.S.—*Food and Cookery for Infants and Invalids.* By C. JANE WOOD; with an Introduction by W. B. CHEADLE, M.D.—*On the Principles of Cooking.* By SEPT. BERDMORE.—*Healthy Schools.* By CHARLES E. PAGET.—*Ambulance Organisation, Equipment, and Transport.* By Surgeon-Major G. J. H. EVATT, M.D.—*Fires and Fire Brigades.* By Captain EYRE M. SHAW, C.B.—These handbooks, issued by the Executive Council of the Health Exhibition, treat of the subjects indicated by their respective titles in a lucid and popular manner. They are not written for specialists, but for the information and enlightenment of the general public, an object which they are well calculated to attain.

*Birmingham Medical Review.* July, 1884.—The original communications of this number are:—The Surgery of the Kidney, by Lawson Tait, F.R.C.S.; Random Recollections of Eighteen Years' Experience of a Parish Medical Officer, by Jabez Jackson, M.R.C.P.; Cerebellar Disease, with Crossed Paralysis, by C. U. Suckling, M.D.

*British Medico-Chirurgical Journal.* June, 1884.—The current number of this quarterly journal contains an excellent article on Chorea by Dr. Long Fox. Ingrowing Toe-nail is treated of by Mr. Greig Smith, and Ligature of Main Arteries by Mr. Paul Bush. A case of Tumour (Columnar Papilloma) in the Fourth Ventricle of the Brain, with Hydrocephalus, is reported by Mr. J. Taylor.

*The Journal of Mental Science.* July, 1884.—Professor Herzen continues his dissertation on the Physical Conditions of Consciousness; Dr. J. A. Campbell discusses the question of "Unlocked Doors" in Asylums; Dr. Chapman institutes an inquiry into the value to be attached to the different Recovery-rates of different Asylums as Tests of Efficiency; Dr. Newington treats of Unverified Prognosis; Dr. Fox writes on Exaltation in Chronic Alcoholism. Interesting cases of Cerebellar Hæmorrhage are recorded by Dr. James Shaw; Mr. Bevan Lewis gives an illustrated account of an example of Post-Hemiplegic Hemichorea associated with Insanity; an illustrated case of General Paralysis with Pachymeningitis is described by Dr. Savage; and Dr. McDowall reports cases of Congenital Mental Defect with Delusions of Suspicion in Twins (with portraits).

*The American Journal of Neurology and Psychiatry.* May, 1884.—Our neurological brethren in America manage to keep pace with us in the number and value of their contributions to the medicine of the nervous system. In the current number of this quarterly many original articles may be found, amongst the best of which are:—A case of Spinal Hemianæsthesia and Hemiparaplegia (a fearful combination from a nosological standpoint) after Fracture of Dorsal Vertebræ, by Dr. Thomas M. Taylor; a case of Nodular Tumour of the Corpus Callosum, by Dr. Francis McGuire; a case of Tumour in the Optic Thalamus, by Dr. McBride. The editor, Dr. Spitzka, has abstracted many valuable articles from various European periodicals. A large amount of information has been given in the Proceedings of the Societies, and several books are critically reviewed.

# New Inventions.

## "APPUI" CHAIR BACKS.

NOVEL and useful inventions are the "appui" chair backs, giving elastic and yielding support to the spinal column, which can be regulated to the required position. No. 1 is composed of a steel spring about two inches wide, with a centre pad stuffed with horsehair, forming a soft cushion-like rest; the whole can be covered with stuff or cretonne to match the furniture; it will fit any chair. No. 2 is adjustable also, can be made more or less prominent, lowered, heightened, or placed at any angle, by means of a screw at the back of the pad. It is most suitable for a chair with a solid back. The apparatus is the invention of Mr. Moppett, Kemp Town, Brighton.

## VENTILATING QUILTS.

MESSRS. BOOTH and FOX, of Cork, and Hatton-garden, London, have submitted to our notice a quilt which, to the qualities of lightness and warmth which are combined in an ordinary down quilt, add the advantage of admitting of efficient ventilation. This is provided for by the exclusion of the down from the double row of stitching which divides the sections of the quilt. The seams thus serve as excellent ventilators. The device is novel, and can scarcely fail of being effective.

## "RECENT STUDIES IN BACTERIAL PATHOLOGY."

*To the Editor of* THE LANCET.

SIR,—In a leading article on the above subject in your issue of the 12th inst., you remark that "Falk has observed that putrefaction destroys the virulence of the tubercular virus," and that the same observer "has endeavoured to obtain by experimental means a benign tuberculosis by inoculating virus attenuated by putrefaction, with the view of discovering the means of vaccinating against tubercle."

It may be of interest to some of your readers to know that I have observed that the bacilli of tubercle are not destroyed, or even appreciably altered, by their continued presence in sputum which has undergone putrefaction. Thus, on the 14th inst., they were readily detected in laryngeal phthisical sputum which had been kept from August 10th last, now nearly a year ago. This sputum, originally muco-purulent in character, is now of a dirty milky consistence, with a strongly putrefactive odour, and scarcely any of its original constituents can be recognised by the microscope. The bacilli seem unaltered in their physical or chemical characters, with the possible exception of staining rather faintly with rosanilin—a feature, however, which is not unusual under certain circumstances with bacilli from recent sputum. Judged by appearances, they seem as capable as ever of communicating tubercular disease.

I am, Sir, yours, &c.,

Edinburgh, July, 1884. G. HUNTER MACKENZIE, M.D.

A MEMORIAL, praying the Lieutenant-Governor to call the Calcutta Corporation to account for its neglect of sanitation, has received over 1000 signatures, including those of the Chief Justice and Judges of the High Court, the Bishop of Calcutta, the Surgeon-General, and others.

# THE LANCET.

*LONDON: SATURDAY, JULY 19, 1884.*


WE deeply regret to have to say that the Government are in danger of surrendering the most vital point in their Medical Bill, and we confess to feeling the utmost anxiety as to the measure. If there is one thing more than another which all medical reformers have desired, and for which they have laboured from the time of the founder of this journal till now, it is the creation of a single portal to the profession, through which all its members would have to pass. Whatever higher title they might attain, all were to pass through this one gate. The public is often duped with titles. Many bodies, even universities, have been well known to dispose of their highest titles on the lowest terms. There is nothing in a high title to guarantee a high examination. And many a meritorious medical man with humble title is placed at a disadvantage by a neighbour who has found medical authorities base enough to give him a high-sounding title on low terms in respect of everything but money payment. The Bill of the Government as originally introduced provided two or three safeguards against the trade in high titles. It provided that higher titles were only to be registered on condition of the Medical Council being satisfied that they were obtained after higher examinations than those for the licence to practise. This safeguard was abandoned last year. The Bill further provided—as every Bill for the last fifteen years has provided—for the creation of a single board in each division of the kingdom, the examination of which every medical man was to pass. The passing of this examination alone was to entitle the successful candidate to a licence to practise. Though a minimum examination, it was to be essentially a sound, honest, and disinterested one As a common test, it was to try not only every student's work, but the work of the schools in which he had been educated, and incidentally the nature and stringency of the examinations of other bodies which he might have passed. It will not readily be believed that the Government is going to abandon this essential provision of their Bill and of all similar Bills. If they do so, they will deeply disappoint the profession.

The gentleman under whose persuasive eloquence they are said to have been induced to take this step is Sir LYON PLAYFAIR. The Government will make a great mistake if they attach too much importance to the somewhat crotchety and warped views of Sir LYON PLAYFAIR. They should remember that he is not a member of the medical profession, and that the near approach of a general election, in which he is threatened with the loss of his seat, may explain his protesting so much about the interests of the Scotch universities. Sir LYON boasts of the number of his medical constituents. But he greatly mistakes the views of medical men if he thinks to advance his political interests, or those of the Government, by inducing the Government to abandon the One-portal system. Medical men will never forgive such a use of his, not medical, but quasi-professoria position in the House. Better far to be represented by a lawyer, by one who has no half knowledge of the profession, giving a false value to his views, than to be thus misrepresented. The more closely Sir LYON PLAYFAIR'S amendment is examined, the more does it appear full of most doubtful suggestions and statements: as that "the profession is undermanned," whereas almost every place is overstocked, the last year's Register containing several hundred more names than that of 1882; that "conjoint examinations alter the case and guarantee satisfaction to the State," whereas the greatest scandals brought to light by the inquiry of the Royal Commissioners have reference to bodies which have been acting conjointly for years; that the "creation of a sound and independent minimum examination will lower all examinations and make men more indifferent to higher degrees and distinctions," as if the raising of the basis of a pyramid could lower its apex; that "the highest professional authorities in the Commission were Mr. HUXLEY and Prof. TURNER," leaving Sir WILLIAM JENNER and Dr. MCDONNELL out of account as supporters of a Final Board; and that "the universities of Scotland will be injured and the demand for their degrees lessened by the creation of such an examination." How comes it that such Scotch graduates as Sir ANDREW CLARK, Dr. DUCKWORTH, Dr. SPENCER COBBOLD, and others, have besought the Government to pass their Bill? Seriously, Sir LYON PLAYFAIR is degrading the Scotch universities by representing them as afraid of such a small measure in the interest of the State; and he is sacrificing the interests of the medical profession, by whom hitherto he has been largely supported.

We have throughout supported the Bill of the Government. Not that it satisfies us. But in the present impotence of Parliament, and in the absence in it of even one medical man who can rise above the standpoint of the corporation interests of nineteen medical bodies—half of which are superfluous and need disestablishment—we were content to take it as a measure of reform. But if legislation is to become a mere piece of accommodation, if the Scotch and Irish bodies are to dictate their own terms, if effete bodies are to be perpetuated at the expense of the profession in the form of conjoint schemes, if the One-portal system is to be abandoned—then our interest in the Bill is gone, the surrender of Ministers is complete, and the incompetence of Parliament to deal with such a momentous question is well-nigh demonstrated. We look forward anxiously to Monday night, in the hope that Mr. MUNDELLA will see through the weakness of the platitudes and the plausibilities of Sir LYON PLAYFAIR'S amendment. In a very short time he could demolish them with his own strong common sense, and carry the House in support of the Final Board demanded by the profession, recommended by the Royal Commission, and accepted by the House of Lords.

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WERE the matter otherwise of sufficient importance, it would be an interesting ethical investigation to discover what moral maxim, if any, underlies the action of the dominant party in the Council of the Royal College of Surgeons of England. It will be remembered that at the general meeting of the Fellows and Members, held in the College on March 24th last, a question was asked respecting the significance of a resolution of the Council. "Was it

not a fact that it had been held in the Council that a Resolution adopted by one Council did not bind another?" "Yes," said the President. "Then a Resolution of the Council may at any moment become a dead letter?" "Not unless it were distinctly rescinded," promptly answered the President; "and no rescission of a Resolution of the Council can take place without notice, argument, and confirmation. The Council really ought to be treated as gentlemen" (!) Pressed a little more closely, the President devised the memorable but confusing duplex classification of Resolutions of the Council—namely, first, "Resolutions which were intended to be directly *operative* when confirmed," and second, "Resolutions which were *not of an operative kind.*" It is necessary to bear this discussion and apology in mind if we would appreciate the meaning of a motion brought forward, after many postponements, by Sir SPENCER WELLS, at the meeting of Council held on the 10th instant, and referred to in our columns last week. Sir SPENCER WELLS proposed to move—"That all confirmed Resolutions of the Council be considered as in force until they have been formally rescinded, and that any existing Resolutions which are not binding on the Council be rescinded." This was at length divided into two parts. First, the Council was asked to pledge itself to the view that all Resolutions of the Council should be considered as in force until formally rescinded; in other words, that the Resolutions should in reality be directly "operative." This motion was negatived; hence it logically follows, in spite of the indignant remonstrance and protest of the ex-President, that all the Resolutions of the Council shall as heretofore be considered as *not* in force, and thus they shall all continue to remain in the category of "inoperative" Resolutions. The second part of Sir SPENCER WELLS' motion, "That all existing Resolutions not binding on the Council shall be rescinded," was withdrawn.

Now, what are the Resolutions which the Council has in times past deliberately adopted, but which it now, as always, with equal deliberation refuses to act upon? They are chiefly these:—First, that no one who has been twice elected a member of the Court of Examiners shall, at the expiration of his period of office, be eligible for immediate re-election. Second, that it is desirable that not less than one-half of the members of the Court of Examiners shall be Fellows who are not, and have not within twelve months, been members of the Council. Third, that the Minutes of each meeting of the Council shall be posted in the Hall of the College within five days of each meeting. The first of these Resolutions was adopted and *confirmed* eighteen years ago; the second and the third fourteen years ago; and yet we believe that not one has ever been "operative." As regards the first Resolution, it may be said that the present senior Vice-President is enjoying his third period of office in defiance of a *confirmed* Resolution of the Council. As to the second, it is enough to recall the fact that at the present time every member of the Court of Examiners is also on the Council, as well as one member of the Board of Examiners; while as to the third Resolution, we doubt whether, outside the Council, twenty Fellows and Members are aware that they are, by a *confirmed* Resolution of the Council, entitled to read in the Hall of the College the Minutes of the Council meetings within five days of the holding of such meetings. But when we remember how the Council to the very last persistently and wilfully disregarded a solemn obligation of a Charter respecting members of the Council who had ceased from the *bonâ-fide* practice of the profession of a surgeon, it is not difficult to account for the small value it sets on its own resolutions.

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ALTHOUGH cholera has spread to some few outlying places in France, yet the disease is still limited as an epidemic to Toulon and Marseilles; but in both these towns the average daily number of deaths has undergone an increase since last week. This is especially the case as regards Marseilles, where the deaths have for some days past varied from about fifty to seventy. What is in store for France and for Europe cannot as yet be foretold. Twenty years ago, when Marseilles received the cholera infection from Alexandria, it infected the rest of France, and before France admitted itself as infected, Valencia had received a serious amount of infection through it, and through Valencia all Spain became involved. The policy of concealment, which has so largely influenced the attitude of those who are in authority in France, is the least hopeful feature of the subject, and it is probably to this attitude that some of the rumours as to the spread of the scourge are due, for the people themselves cannot believe that the Government allow the whole truth to be known.

The Academy of Medicine has wisely decided against any attempt at an inland quarantine and sanitary cordons, deeming such measures to be impracticable in a commercial and populous country like France. They have also entered a protest against the futile and vexatious processes of so-called disinfection to which people are subjected on entering Paris and other towns. This is a wise step, and it is to be hoped that the energy which has been thrown away in this direction will now be devoted to general sanitary measures, which, by the removal of conditions of filth, will make the towns and villages to which the infection may be brought less susceptible of the disease. The danger as regards secondary cholera centres may be more and more removed as the adoption of adequate sanitary measures shall bring within control the conditions which usually lead to the spread of what are known as filth diseases. It is also on these measures that we must ourselves rely in case infection is imported into this country; and it specially behoves the sanitary authorities of ports and towns in frequent communication with France to set their houses in order from this point of view, and so to hold themselves in readiness both as regards the removal of filth and the provision of means of isolation that they will at once be prepared to face any emergency. Scares are sure to arise, and the majority of them will be either altogether or nearly unworthy of credit. One has passed quietly by this week. The *Carthagena* has arrived safely at its Welsh port, the few men who were recovering from choleraic diarrhœa have been isolated, and the danger is apparently over.

During the past few days cases of so-called cholera are alleged to have occurred in London. That they were not instances of the genuine disease is tolerably certain from the subsequent history of the places and families in which they arose; and we cannot too forcibly urge medical practitioners to be careful as to the diagnosis which they may make when called in to treat cases of severe diarrhœa

such as always occur in the metropolis during the hot summer months, and which are so often misnamed cholera. At the present moment the right course is to adopt the strictest preventive measures as regards isolation and disinfection with respect to every case that may present doubtful features, and it will be policy in all such cases to communicate with the local medical officer of health; but it is at the same time no less important not to create a panic by proclaiming a case to be cholera merely because it is fatal and has been accompanied by some of the signs of the epidemic disease. Some of our neighbours have already lost their heads; during, at least, one of our previous epidemics of cholera people in this country did the same thing. It will be well to learn by experience, and to remember that in the face of a common danger every member of the community has a definite duty towards his neighbour, and this duty he will certainly not accomplish by running away and so tending to increase a panic. There is still time for householders to disconnect their houses from the drains, to secure a current of air through all house drains, to remove all offensive appliances, fittings, and accumulations, and to see that water cisterns are clean and overflow into the open air; and having done this they may, by the observance of the most ordinary precautions, remain where they are, at a risk which is but trivial compared with that which many are now running because they have not abolished from their homes conditions favourable to the spread of some of our current but very fatal preventable diseases.

THERE seems no improvement in the lamentable condition of affairs that for many months has distracted the inhabitants of the Diamond Fields. The Kimberley Board of Health, having expended over £16,000 in the attempted suppression of a singularly fatal epidemic, finds itself in pecuniary difficulties. Nor is this to be wondered at when one considers that the great mining interest which represents the main source of income to the districts of Kimberley, Bultfontein, and Dutoitspan has been led by what we venture to think the mistaken policy and action of certain medical men. Surely it ought to be sufficient to convince the most sceptical that a mortality of twenty-two out of fifty-three cases has obtained in one district alone—the native location in the division of Hay or Herbert. What does it matter to the victims whether the plague of which they suffer and die is small-pox or "a disease allied to pemphigus," or the still more problematical "varicella hæmorrhagica"? We have already expressed our firm conviction that there has been a visitation of genuine variola, notwithstanding Drs. JAMESON and WOLFF have declared to the contrary. In the *Cape Times* of June 10th is the doctors' report from Griqualand West. It is there stated that, whilst the epidemic is causing great alarm in Kimberley, Dr. WOLFF, one of the surgeons to the mining boards, winds up a report with words to this effect: "The disease is a miasmatic one (like malaria), and *not contagious;* and the isolation of a hospital is hardly necessary, and the destruction of suspected contagious fomites is a useless expense." Can it be matter of surprise that the local executive authorities find their work brought to a deadlock when they are confronted with such compromising professional opinion? A general idea of the confusion that prevails may be gathered from the fact that at a meeting of the Beaconsfield Town Council the following question was formally put to the members: "Is the disease 'small-pox' or 'so-called small-pox'?" It says something for the sagacity of these gentlemen that by a large majority they voted in favour of the latter description of the pestilence. We see it is recommended that a commission composed of leading medical men in Cape Colony should determine the point in dispute. Certainly a competent official tribunal ought to investigate the whole matter; for as it stands at present, it is a scandal and a disgrace to the medical profession, and a source of immeasurable mischief to the community. Cannot the Secretary to the Colonies see his way to sending out a skilled and unbiased observer to examine and report on the nature of the outbreak?

# Annotations.

"Ne quid nimis."

## THE PRESIDENCY OF THE ROYAL COLLEGE OF SURGEONS.

IN our report last week of the meeting of the Council of the Royal College of Surgeons of England held on the 10th inst., we inadvertently omitted to state that Mr. Heath's motion, "That at the ordinary meeting of the Council in November next, the Council do consider the mode of electing the President and any alterations suggested in the method of proceeding in the election," was carried *nemine contradicente*. At the meeting in November Mr. Heath will be prepared to present a scheme for electing the President, and it may be confidently assumed that this scheme will not only depart from the existing absurd system of electing the President by rotation, but that it will provide for the election in some such way as that suggested in a recommendation adopted at the general meeting of Fellows and Members held at the College last March.

## DIARRHŒAL MORTALITY IN ENGLISH TOWNS.

THE outbreak of cholera in the south of France invests the usual advent of summer diarrhœal fatality in our English towns with more than the usual amount of interest. Although May was exceptionally warm, the mean temperature and the amount of rainfall in June differed but slightly from the average, and the deaths attributed to diarrhœal diseases in the English towns during June were very considerably below the corrected average. In London, for instance, the recorded deaths from diarrhœa and dysentery in the four weeks ending June 28th were only 95, the corrected average number in the corresponding period of the ten years 1874–83 being 177. The materials for a similar comparison as regards the mortality from diarrhœa and dysentery in the twenty-seven provincial towns are not available, but for present purposes it is enough to state that the diarrhœal mortality during last month was also below the average in these towns. At the beginning of the present month, however, concurrently with a marked increase in the temperature, the mortality from diarrhœa showed a rapid increase. The deaths referred to this cause in London, which had been but 21 and 39 in the last two weeks of June, rose to 104 and 336 respectively in the first two weeks of July, the latter number exceeding the corrected average number in the ten preceding corresponding weeks by 115. In the twenty-seven provincial towns the deaths from diarrhœa also showed a marked increase, but the increase was not nearly so great as that recorded in London; they were 34 and 51 in the last two weeks of June, and rose to 71

and 159 in the first two weeks of July. With reference to these figures, it may be stated that the aggregate population of the twenty-seven provincial towns is slightly greater than that of Registration London, and that summer diarrhœa fatality has in a long series of years almost invariably shown an increase in London prior to the recorded increase in the provincial towns. With regard to the recorded mortality from diarrhœa in the second week of July, it was equal to an annual rate of 2·9 per 1000 of the estimated population of the twenty-eight large English towns; in London the rate was equal to 4·4 per 1000, whereas it did not exceed 1·7 in the twenty-seven provincial towns. Among these provincial towns the diarrhœa death-rate showed a marked divergence. No death was attributed to this cause either in Sunderland, in Derby, or in Halifax; while the highest diarrhœal death-rates were 2·3 in Norwich and Birkenhead, 2·6 in Salford, 3·1 in Preston, 3·8 in Bolton, 3·9 in Leicester, and 6·1 in Nottingham. It should be noted that 25 deaths in the twenty-eight towns were also attributed to choleraic diarrhœa, or cholera, of which 16 occurred in London and 9 in the provincial towns; a certain number of deaths are so attributed every summer, and the number above-mentioned, as regards its proportion to the recorded diarrhœa deaths, is below the average.

## THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

IN May last it was suggested by THE LANCET to make the new wing of this hospital now rebuilding in Queen-square a memorial to the late Duke of Albany, and the consent of the Queen having been cordially given to the proposal, no time has been lost in taking action upon the suggestion. A public meeting was held at Willis's Rooms on Monday last, which was worthily presided over by the Earl of Shaftesbury, and at which resolutions embodying the idea were passed. The resolutions were supported by Sir William Gull, Mr. Carter, Mr. Hutchinson, Lord Denman, Canon Fleming, and others. Of especial interest and significance was the presence of Mr. Arnold Royle, C.B., the Duke's medical attendant, who in a few well-chosen sentences adverted to the intense sympathy ever felt by the late Prince towards any movement which had for its object the alleviation of human suffering, and warmly endorsed the object for which the meeting was held. Between £2000 and £3000 were subscribed by those present. We understand that the rebuilding of the hospital has been making rapid progress since last autumn; and great hopes are entertained, if money can be obtained, that a commodious hospital may be completed in the course of next summer.

## SECONDARY SUTURE OF THE MEDIAN NERVE.

AT a recent meeting of the Academy of Sciences M. Tillaux related two cases of secondary suture of the median nerve followed by rapid restoration of the functions in the parts depending upon it. The first was a young girl who cut the front of her wrist whilst cleaning some windows in November, 1883. The wound healed without suture of the nerve being performed, and there remained complete paralysis of all the parts supplied by it. Incapable of working, the girl went to the Beaujon Hospital to seek relief. The parts supplied by the median nerve were found to be colder than on the opposite side, and of a slightly violet colour. Notwithstanding the discouraging nature of the case, M. Tillaux decided to give the patient a chance. The ends of the nerve were found about a centimetre distant from one another, the central one bulbous, the peripheral atrophied. They were cut so as to present a fresh equal surface and carefully drawn together by a hair suture (*crin de Florence*). An antiseptic dressing was applied and the limb immobilised in extreme flexion. Two days after the operation sensibility began to return and increased daily. Six weeks later she left the hospital with sensibility and movement entirely restored. The other patient was a woman who, witnessing the result in this case, begged M. Tillaux to operate upon her also, notwithstanding that the accident had occurred fourteen years before. The operation was identical, and the next day sensibility began to return, and was soon entirely restored. The physiological curiosity of these cases lies in the fact that when examined microscopically (by M. Ranvier) the portions of nerve removed exhibited no trace of cylinder-axis, and that it is difficult to explain the restoration of function by our present ideas on the subject. M. Tillaux's observations may be the starting-point of an important discovery.

## THE PRESERVATION OF COMMONS.

THE need for the existence of the Commons Preservation Society has been abundantly proved in the history of litigation during the last few years. The success which has attended the efforts of the Society is a public benefit of the most fruitful kind. A common is something more than the official public garden. It has advantages which the latter has not. It affords not only fresh air and an undiluted share of what sunshine there may be, but a place for the free exercise of muscle under those very helpful conditions. Nor must it be forgotten that commons are in their way teachers, and that their lessons, as valuable as any others, cannot well be learnt in schools. The lover of nature, if he is careful to observe, finds in them much intellectual profit and amusement. His opportunities in this respect have unfortunately already undergone serious reduction, since nature in many districts has been nearly effaced by the town. The spreading edges of cities approach one another more and more nearly, the contagion of building occupies the intervening areas, and the country is rapidly being converted into a smoky town-tract. It is certainly as unwise as selfish, then, to grudge to recreation a piece of land here or there which the forethought of an earlier time has assigned to that purpose. Yet this is what railway companies and rich private persons are equally prone to do. With them the convenience of wealth admits no prior necessities, and conditions of public health are mere pedantic theorisings. It is true, notwithstanding, that the care with which we guard the means and places for suitably using leisure time will go far to decide whether our material prosperity, as it increases, shall exhaust us by unvaried toil, or shall carry with it an equal degree of national vigour, with promise of even greater attainments.

## GLOUCESTER INFECTIOUS HOSPITAL.

THE Gloucester urban sanitary authority seem singularly averse to take the action which they should do as regards the isolation of the infectious sick. Last year, in consequence of the very imperfect character of the existing arrangements, Dr. Thorne conferred with the urban and rural sanitary authorities on behalf of the Local Government Board, and urged combination in the erection of a proper hospital. The rural authority appear willing to take this step, but the urban authority prefer spending money on a temporary building which has already been condemned. The medical profession have now joined in a protest against this parsimonious action, and they have appealed to the central authority for support. For years past the existing building, which we believe was one of the many faulty structures erected during a period of panic, has been regarded by the profession as practically useless, and since only one infectious disease can safely be received into it, they have

not dared to send in patients lest another disease should happen to be under treatment there at the same time. What is wanted is such a scheme as will secure the erection of at least two separate pavilions, one of which should be an isolation building, such as we recently referred to as intended to be erected at Bournemouth. In this way the needed first requirements of the district would be met, and the accommodation which the town would require would probably in the first instance suffice also for the needs of the adjacent rural district, and hence combination would result in considerable economy, whilst increased efficiency would be secured. It is much to be hoped that the Town Council will be advised in this matter by the medical practitioners who have counselled them aright, and who, whilst knowing the sanitary requirements of the city far better than many members of the corporation can do, have as deep an interest in the prosperity of the city as any other inhabitants, be they in authority or not. Gloucester has suffered serious mortality from infectious diseases whilst the present hospital has remained all but empty; so serious a state of things should never be allowed to recur.

## DEATH OF DR. W. G. BALFOUR, OF BOMBAY.

IT is with deep regret that we learn the sudden death, from apoplexy, of Dr. W. G. Balfour, which took place in Bombay on Sunday morning, June 15th. Dr. Balfour, who received his medical education in Edinburgh, had for some years devoted himself to the specialty of lunacy, in which he had acquired considerable practical experience; but, owing to circumstances, he gave this up and went out to India in the capacity of surgeon to the Great India Peninsular Railway Company, and subsequently settled in Bombay in private practice. The deceased gentleman was a good microscopist, and has contributed some valuable papers to these columns, mostly in connexion with cholera and the cholera germ. Like the German *savant*, Professor Rudolph Emerich, he not long since drank a concentrated solution containing cholera excreta by way of experiment. He leaves behind him a family at home in Scotland to mourn their loss.

## REMOVAL OF PATIENTS FROM HOSPITAL.

A VERY interesting question relating to the removal of patients from infirmaries and such institutions has been raised in Glasgow by the publication of a letter from Sheriff Spens in the *Glasgow Herald* of Monday last, in which he states that he has found, to his surprise, that in both the infirmaries it is thought the officials are bound to hand over patients on the demand of the natural guardians or relatives, to be removed to their homes, although it is known that such removal will cause extra risk to the patients, and may even be certain death. Sheriff Spens gives it as his opinion that the infirmary authorities are mistaken as to their being under any obligation to hand over patients to relatives on demand where it is known that the removal over the rough streets will of necessity be fatal or even injuriously affect the chances of recovery. The primary duty which the infirmary authorities are entrusted with is one to the patient and not to the relatives, and that duty they are entitled to defend against all. They have become the temporary guardians of patients for the purpose of curing them; and it appears to Mr. Spens that no court of law would for a moment give countenance to the view that there was a higher right in a guardian or a relative to demand delivery than in infirmary authorities to refuse on the ground of obvious risk to life. The force of this strongly expressed opinion is apparent, but its validity is not so obvious. Are we to understand that in an infirmary the medical attendant is not simply the adviser of the patient, as he would be regarded in private practice, but is also his responsible guardian? Or do the authorities, lay and medical, step into the position of "natural guardians" of the infirmary patient? This is not a mere matter of professional etiquette, but rather one affecting the liberty of the subject; and it is one which demands very prompt settlement. The distrust of hospitals among the ignorant poor is great enough, and would be increased tenfold if these institutions were endowed with such powers as Sheriff Spens indicates. Pending the settlement of the question, and till further instructions are issued, the secretary of the St. Andrews Ambulance Association has directed his officer "to be guided on all occasions by the opinion of the officials in charge, and to refuse to undertake removals which they consider dangerous."

## QUARANTINE AND THE FORTHCOMING CONGRESSES.

THERE appear no grounds for apprehending that any measures of quarantine will in any way affect the attendance at the forthcoming Medical Conferences at the Hague and Copenhagen. Neither the government of the Netherlands nor that of Denmark has followed the example of Spain; and in view of the example set them by Germany, which is willing to follow very much the lead of England in this matter, it is highly probable that our own system of inspection and subsequent isolation of those actually sick may be carried out in the case of the two countries referred to, should real danger of cholera importation arise. Both Denmark and the Netherlands seem desirous of excluding small-pox quite as much as cholera, but if any action should be taken for this purpose it will probably be limited to an inspection of persons entering the country by sea merely with the view of placing under isolation any who are found to be suffering from infectious disease. Such a system should in no way interfere with the attendance at either of the Congresses mentioned.

## "THE DROWNING SEASON."

IT must, we presume, be accepted as a general proposition capable of particular application in the most vexatious directions and specialities, that any and every sport, exercise, and pastime which involves a certain amount of personal risk will have an inevitable attraction for English folk of all classes and ages. On no other principle is it possible to account for the curious fact that, although year after year many lives are ruthlessly and uselessly sacrificed in such practices as bathing, boating, hunting, and skating, no lover of these several pursuits is deterred from indulging in them by the peril incurred. On the contrary, it is beyond question that this very peril adds zest to the pastimes. When, therefore, we encounter a paragraph in the press under the above ominous heading giving particulars of eleven deaths by what are, almost facetiously, termed "accidents" in the course of a few days, we do not dwell long on the mournful epitome, but pass it over with something of the same feeling as may be experienced on reading the bare statistical statement of a death-rate. Nevertheless, it is a grim fact that every one of these lives might have been saved by a little timely precaution. Either the bath was taken in too deep water or at an unsuitable spot, or there was some neglect of obvious measures and conditions of safety. Nothing would be gained by reiterating the warnings we have repeatedly given as to sudden plunges into cold water, if the heart be weak, or there be a tendency to cramp; as to severe trials of strength in buffeting with heavy waves or trying to swim long distances; and as to going into the water weak or exhausted by want of food, or with a stomach so loaded that disturbance of the circulatory and nervous systems must almost inevitably ensue if there be even a moderate amount

of congestion set up by the immersion in a fluid colder than the atmosphere. These and a score of other dangers arising out of, or dependent upon, states or diseases of the organism have been pointed out and the importance of caution insisted upon. We preach to heedless ears. Tell an English man or boy that anything is dangerous, and he will burn to do it. If he be weak, he will try to behave as though he were strong. If he be unfit, by reason of physical disability of some sort, for a particular exercise, he will yearn, above all things, to do the impossible and to hazard the extremely perilous. In health he will scorn safeguards and precautions as signs and tokens of cowardice. We do not think that mere carelessness is so common as some people are apt to suppose. We believe it is downright foolhardiness that leads to "accidents" of the class represented as "deaths by drowning." This is an important consideration, and it is one that must to some extent modify what we have to say on the subject of the "drowning season" year by year. The accidents that occur are deplorable, it is true; but, on the whole, it is more honest to say that they are discreditable, and it is high time to have recourse to plain speaking. Pity must give way to reproaches, even though it be necessary to violate the rule that nothing but good should be spoken of the dead.

## ACUTE ALCOHOLIC POISONING.

AN inquest was held at Royston on July 1st touching the death of a little boy named Enderby, aged nearly four years. The father of the deceased found him insensible at half-past ten o'clock in the morning, breathing stertorously and smelling of spirits. It appears that a bottle of brandy was kept in a box in the bedroom, and to this the unfortunate little fellow gained access and regaled himself with the contents. Convulsions succeeded the coma, and death ensued about twenty-four hours after the onset of the symptoms. There was no smell of alcohol in the contents of the stomach ejected after an emetic was administered in the course of treatment. This, however, does not negative the supposition that death was due to alcoholic poisoning, for Taylor gives a similar case in which a pint of spirits was taken, and a fatal effect produced eight hours afterwards. Investigations, both on the human subject and on animals, have shown that the poison may be detected in the blood and viscera a considerable time subsequent to all traces of it having disappeared from the stomach. In the case under notice it is believed that half a quartern of neat brandy was swallowed—an amount quite sufficient to account for the results. From a toxicological point of view, it is a pity that no post-mortem examination and analysis were made, although there seems no reason to doubt the accuracy of the assigned cause of death. Acute alcoholic poisoning is not of very rare occurrence, since Taylor mentions the fact that thirty-five cases were registered in four years in England and Wales. There is no specific physiological antidote to alcohol. The treatment aims mainly at removing what remains in the stomach; keeping up the body temperature, which always shows a marked depression; and administering readily absorbable nourishment. The last-mentioned item is of the greatest importance, since to the toxic action of the poison is superadded the asthenia consequent on privation of food. Our experience does not lead us to concur in the view expressed by the coroner, "that the child must have in some extraordinary way acquired a taste for brandy." Children have a natural tendency to imbibe whatever comes in their way, as the records of violent deaths too fully prove. For example, it could scarcely be contended that because a child swallowed some of the contents of a kettle of boiling water the act showed an appreciation of the results of previous indulgence, and yet this accident is not at all uncommon. There is one lesson to be learned from the sad event described above—viz., that those who have the charge of children should take care that all deleterious liquids are kept in safe custody.

## THE COUNTRY HOLIDAY FUND.

ONE of the happiest developments of business habit has been the general application of method in projects of benevolence. The unobtrusive visitations of many true friends of the poor, unnamed perhaps in public, have had much to do with this result. They have kept open the communication between rich and poor, and have taught the wealthier class who of their less favoured brethren deserve their help, and how that help should be given. It will readily be admitted that the "Country Holiday Fund," for the benefit of London children, is one that merits the support of names distinguished in philanthropy which it has received, but which alone can cover but a part of its requirements. The name of the Fund fully describes its purpose, and pleads its own cause almost better than any more elaborate explanation. Lord Rosebery, in an exact and comprehensive speech at the Mansion House on Monday, dwelt on the affinity between the mind of childhood and the natural country, on the benefit to health from their association, and on the public good which must accrue when every class combines to further an object so humane. No one who knows the tender life of children, and how it thirsts—plant-like—for pure and wholesome conditions, can question that these observations are true in every word, or can doubt that a week or two of country, to many a luxury, is to them other than a vital necessity.

## THE THAMES.

IT was felt while the Royal Commission on Metropolitan Sewage Discharge was sitting that some of the evidence given was exaggerated, and that the pessimist view taken of the matter by the medical officer of health for the port was scarcely justified by the facts. Unfortunately, however, the decision arrived at by the Commission has during the recent hot weather been far more than justified. It is no exaggeration to say that the whole river from Greenwich to Greenhithe has been full of sewage. The colour of the water is black and the odour intolerable. Such a state of things has naturally caused much anxiety. The Port of London Sanitary authority, alive to the danger, has addressed the Local Government Board, pointing out the necessity for immediate action. As a consequence pressure has been brought to bear upon the Metropolitan Board of Works, who have tardily agreed to the deodorisation of the sewage before it reaches the outfall. This, however, can merely be a palliative measure, the only real remedy being to remove the outfalls many miles further down.

## SMALL-POX IN NEWCASTLE.

ON the 10th inst., at the Newcastle-on-Tyne police-court, a woman who carries on the trade of a cowkeeper and milk retailer was charged with having neglected to give notice to the medical officer of health of the existence of small-pox on the premises occupied by her. It was stated that the milk from two cows and the milk vessels were kept in the one room where the defendant, her daughter, and two children lived and slept. The milk was carried to the house from the cow-byre and strained, and was afterwards retailed by the defendant. On March 11th a neighbour saw that one of the children was suffering from small-pox, and told its mother that she ought to report the case to the medical officer of health. On April 16th the medical officer went to the house and saw the girl, who was then

convalescent, but showed evidence of having had a very severe attack of small-pox. The child had been prescribed for by a chemist, who, however, had never seen it. In the yard in which defendant lived this was the first case of small-pox, but since then there have been four cases, and one, that of the head of the family, has proved fatal. The magistrates imposed a fine of forty shillings and costs, the full penalty, and expressed the wish that the greatest publicity possible should be given to the case. It is unfortunate that such an offence should not entail imprisonment without the option of a fine, a monetary penalty being wholly inadequate to the gravity of the case.

## THE BROMPTON CEMETERY.

ON July 2nd we published a letter describing the state of the Brompton Cemetery, and showing in our opinion good reason for its disuse as a place of burial. This cemetery, and also one or two others in the east of London, no longer occupy their original position on the margin of the city's growth, but lie well within its ever-widening limits. The modes of burial are no better than elsewhere, and are such as we have frequently criticised unfavourably. The choice of soil, sand and gravel, has not been a happy one. Sand has no doubt a certain advantage in its porosity, but it does not favour the processes of oxidation which ought to go on in the buried body, and so rather hinders than helps the due restoration of earth to earth. In warm weather, such as we have lately experienced, the evils of organic contamination must be doubly felt. Their influence cannot but be magnified when they are generated in a soil like sand, which readily absorbs and radiates heat, which but feebly assists chemical change, but wants nothing to enable it to nourish the living germs of putrefaction.

## HEALTH EXHIBITION.

THE *fête* to be given on the evening of the 23rd instant in aid of the London Hospitals promises to be a very gay and attractive affair. The Prince and Princess of Wales have both promised to attend, and nothing will be omitted which is likely to give *éclat* to the proceedings. Military bands will be provided to the number of three or four, and we believe that a special orchestra has been engaged to play in "Old London." The Water Companies, under the direction of Sir Francis Bolton, are conspiring with the Electric Lighting Department to make the illuminated fountains more than usually attractive, and the Chinese Restaurant, which is now in full working order, may be expected to form a special centre of attraction. A committee of ladies has arranged for the erection of a number of stalls, each of which will be presided over by ladies of social distinction and at which fruit and flowers will be sold; but beyond this there will be no bazaar element in the display. All who have visited the Exhibition are agreed that its appearance of an evening is unequalled, and most of the foreign jurors and commissioners who are over here admit that their various countries can show nothing like it. "'Tis a dream from the Arabian Nights," said one; and so it is. And we can only hope that the British public will remember that next Wednesday, when they visit the Exhibition, they will not only be seeking enjoyment, but indirectly helping to alleviate the sufferings of their less fortunate brethren. We heartily hope that the hospitals may have what in "theatrical parlance" is called a bumper benefit, and that the Executive Council may find their doors thronged to the utmost.

## CONVALESCENTS FROM SCARLET FEVER.

THE Home established by Miss Mary Wardell for scarlet fever convalescents, at Brockley-hill, Stanmore, was opened by the Prince and Princess of Wales on Monday last. Miss Wardell's great credit in this undertaking is enhanced by the pleasing announcement that so far the committee are not in debt. The Prince seems never more at home than in acts of practical philanthropy, and as usual made a very apt speech on the occasion. We heartily congratulate Miss Wardell on the great amount of influential sympathy already experienced, and wish her entire success in her arduous and benevolent undertaking.

## THE PORT OF LONDON: CHOLERA.

IN view of the possibility of the importation of cholera from Marseilles the precautionary measures adopted in the Thames in 1883 have been scrupulously maintained. The only vessels which arrive regularly direct from Marseilles are the Peninsular and Oriental, the Messageries Maritimes, and the Trieste boats, and these are all receiving special attention. Dr. Collingridge has moreover made arrangements for the medical inspection of every vessel entering the river in the event of any serious spread of the epidemic rendering such a course advisable.

## FOOD ADULTERATION AND ANALYSIS.

UNDER the auspices of the Institute of Chemistry a most important conference on adulteration, which seems likely to lead to valuable results, has just been held at the Health Exhibition. The opening paper was by Dr. James Bell, F.R.S., of Somerset House. The discussion lasted over two afternoons, and many well-known chemists took part in it, as well as several gentlemen who represented the trading interest. We give in another column an abstract of Dr. Bell's paper.

## LOWER THAMES VALLEY SEWAGE.

THE Select Committee of the House of Commons have rejected the scheme of the Lower Thames Valley Main Sewerage Board, and recommend that the district shall be divided into four or five districts, each of which shall purify and dispose of its own sewage. The decision is a most important one, and we shall shortly offer some remark upon it. There is no doubt as to the urgency of the question, for the present condition of the river is a most serious danger to London. The letter of Sir Thomas Nelson, which appeared in the morning papers the other day, will increase the alarm generally felt.

## MR. GAY, F.R.C.S.

WE regret to announce that Mr. Gay's state of health is such as to give his friends very great anxiety. About Christmas last Mr. Gay found himself rapidly becoming unequal to the fatigues of his professional duties, and a few months later he was compelled by increasing physical weakness to relinquish all active work. From time to time hopes have been cherished that with genial weather a measure of health and strength might return; but unfortunately these hopes have not been realised.

THE danger of disease being disseminated by means of imported rags is very patent. The Hull Sanitary Authority is properly concerning itself with this matter in reference to shipments of rags, and it is certainly desirable at the present time that extra precautions should be taken. A cargo of these objectionable articles having arrived from Marseilles, the ship was boarded by the Hull port sanitary officials, detained and thoroughly disinfected, the cargo being transhipped and submitted to disinfection. A few days since a large consignment of rags from Marseilles was landed in the Royal Albert Dock, London. They were at once detained by the medical officer of the port, and will be thoroughly fumigated by the superheated steam process.

THE following is the programme of the Conference of the Epidemiological Society of London at the International Health Exhibition to be held on the 22nd and 23rd of July, 1884. President, Dr. Norman Chevers; Hon. Secretary, Mr. Shirley Murphy:—July 22nd, at 2.30 P.M.: The President's opening address on Health in India; Dr. Squire on the Change of Type in Epidemic Disease. 23rd, at 11 A.M.: Surgeon-General Pringle on Leprosy in India, and the best means of Preventing its Increase; Mr. Barrington Kennett on Floating Hospitals, with a view to showing their Efficacy in Checking the Spread of Epidemics. At 2.30 P.M. a Consideration of the Present Aspect of Cholera in Europe will be opened by Inspector-General of Hospitals Robert Lawson, M.D.

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WE hear that Dr. Donald MacAlister is a candidate for the post of Physician to Addenbrooke's Hospital, Cambridge, rendered vacant by the retirement of Dr. Paget. Dr. MacAlister for some time past, we believe, has seen Dr. Paget's out-patients, and at times has taken charge of his wards. As is well known, he had a most distinguished academical course, and has shown ability as marked in the pursuit of medicine as in that of mathematics. He is strongly supported in his candidature by the members of the staff at Addenbrooke's Hospital, and we should imagine that his appointment is certain.

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WITH the view of preventing the importation of cholera into the United States, telegraphic instructions from Washington have been received at the American Consulate-General in London to appoint medical inspectors to examine all vessels sailing from London and Liverpool for the United States of America. The Consul-General has accordingly appointed Dr. J. Higham Hill health inspector at London.

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THE managers of the Metropolitan Asylums District have found it necessary to enlarge their camp at Darenth for convalescent patients from small-pox, so as to accommodate some of the less severe cases for which room cannot be found in the hospitals and hospital ships. The managers have purchased a river steamer called the *Marguerite* to convey passengers to and from their hospitals.

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THE condition of the River Lea is causing disquietude. Dr. Tripe has called the attention of the Hackney District Board of Works to the dangerously foul state of the stream, and the Poplar Board has resolved to serve the Lea Conservancy Board with a notice to remedy the evils which are but too conspicuous.

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PROFESSOR TYNDALL has promised to preside on Tuesday next, at 5.30, at a lecture at the Health Exhibition, to be given by Dr. G. V. Poore, on "Thrift in its Relation to Health; the Right Use of Refuse."

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THE Glasgow Town Council have caused regulations to be put in force for the purpose of preventing the entrance of cholera, and for the treatment of persons who may be attacked with the disease.

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FROM Sheffield comes the report of the death of another medical man, Mr. Morris, formerly surgeon in the army, from an overdose of that treacherous drug, chloral hydrate.

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SMALL-POX has broken out at the Spital cavalry barracks, Windsor, and a fatal case is also reported to have occurred among the troops stationed at Aldershot.

## THE MEDICAL ACT AMENDMENT BILL.

AT a recent meeting of the Senate of the University of London, Sir Lyon Playfair's amendment was discussed, and a deputation, consisting of Sir J. Paget, Sir J. Lubbock, Sir W. Gull, Dr. Quain, Dr. Storrar, Mr. Wood, LL.D., and Mr. Shaen, was appointed to wait upon the President and Vice-President of the Council to point out to them the objectionable nature of that amendment. The deputation believed it to be contrary to the spirit of the Bill, and that if adopted, the evils which it was desired to remedy would be aggravated. Lord Carlingford said the chief aim of the Government was to secure uniformity and completeness of qualification in candidates for the medical profession, and he believed that end would be accomplished by the Bill. The Government also conceived that greater power would be given to the reformed Medical Council, and, further, that under a system of joint examiners, appointed by the Medical Board, uniformity of qualification would be secured. The deputation, dissenting, maintained that neither the power of the Medical Council nor the confidence which might be reposed in the conjoint examiners would be sufficient to secure the object aimed at in the original Bill. During a long discussion, it was suggested that the objects of uniformity of qualification and examination might be ensured by the appointment of assessors, who could visit and report on the manner in which the examinations were conducted. This suggestion, originally made by Professor Turner, a member of the Royal Commission, seemed to be viewed with favour by the President and Vice-President, and the deputation, having thanked the Ministers for their courteous reception, then withdrew.

## THE INTERNATIONAL HEALTH EXHIBITION.

### THE FRENCH SECTION.

[FIRST NOTICE.]

THE French have strictly adhered to the spirit and principles that might be expected to govern a sanitary exhibition. Once within the French section, the visitor feels that he has around him the silent testimony of earnest study, all strictly bearing on health and education. The bazaar element and trading interests are all strictly excluded, and may only be found outside the walls of the enclosure which forms the principal portion of this section. Within this inner temple, the great problems that have been so ardently debated among specialists on the other side of the Channel, and the sanitary progress attempted and accomplished during the last few years, are fully illustrated by the exhibits, which are skilfully grouped. A comprehensive catalogue alone is wanted. The details given in the English catalogue are altogether insufficient, and there are no numbers to enable the visitor to find the objects he wishes to examine. The town of Paris, however, publishes an admirable catalogue of its own exhibits, which occupy half of the entire court.

Holding the place of honour in the centre of the section, the very complete exhibits of M. Pasteur give a history of his researches and discoveries. The descriptions both in English and French that are attached to each object are of great aid, for it is not always possible to guess the precise use of a flask or the liquid it may contain. When M. Pasteur's assistants, Dr. Roux and Dr. Chamberland, were in London, they always commenced their explanations by pointing out the cardboard models of the left and right hand crystals of tartaric acid. It was the discovery that microbes were developed more rapidly with the right hand crystals which led up to many of M. Pasteur's subsequent and successful investigations. Next to these crystals is the historic and large vessel charged in 1861, and which still contains unaltered the production of a fermentation of

200 grammes of sugar acted upon by a minute particle of yeast that had been deposited in a mineral medium. The purity of the yeast and the previous sterilisation by heat, practised, at the very onset, explain the success of the operation. From this dates the use of sterilised liquids or pure cultures. In front of this celebrated experiment is a double row of flasks or glass "balloons," which were opened on the summit of Montanvert in 1860, and the culture broth they contained has remained pure ever since, with the exception of two bottles which were accidentally broken in descending near the foot of the mountain. In two little bottles, close at hand, there are specimens of blood drawn from the heart of a rabbit which has remained pure after many years, and of unaltered serum of bullocks' blood gathered *in vacuo* in tubes purified by fire, but kept without heating. Taking a step further to the right, we come upon a number of tubes, flasks, &c., used for cultures *in vacuo*, with some tubes containing vaccine for anthrax; and one hundred doses for sheep and fifty for bullocks are held in tubes of the same size. There are also specimens of liquids sterilised by cold, and in the background statistical tables giving the practical results attained in the prevention of splenic fever among cattle. The eastern side of the table is occupied with stoves used for cultures, and methods of indicating and automatically maintaining a given temperature within the apparatus. In one of these, constant temperature may be regulated to the tenth of a degree Centigrade, and there are steam coils to surround the funnels holding filtering-papers, warmed plates to stand cultures upon, and gauges for gas pressure &c. On the north side will be found instruments used for inoculation. One especially ingenious contrivance contains the vaccine in the handle, which can be squirted out at a regulated dose so rapidly that it is possible for one man to inoculate two thousand sheep in one day. But, to the general public, Dr. Chamberland's filter will be of greater practical interest. For the sterilisation of liquids a biscuit tube is employed. Placed in a flask where vacuum is produced, the liquid is drawn through the biscuit or porcelain. This constitutes so fine a filter that even the minutest microbes are unable to pass. With a much larger ube fixed to an ordinary water-pipe, the water under usual pressure will filter through slowly; but by placing several biscuit tubes side by side, a sufficient quantity of water can be obtained for domestic purposes, in spite of the slowness of the process. A filter thus contrived and in working order is exhibited; and experiments made with one of the smallest known microbes, that of chicken cholera, prove that it cannot pass through the biscuit. The cleanliness of this filter is easily maintained, as the biscuit tube can be taken off, cleaned with a brush, or, better still, placed for a little while in the fire. The fourth side of the table is devoted to microscopical instruments. There are photographs all round of microbes, and close at hand a graphic sketch of M. Pasteur's kennels for the dogs, rabbits, &c., used in his researches. M. Houdard's apparatus for the prevention of the second fermentation of wine by heating to 145° F., and the appliances for the prevention of silkworm disease, both based on M. Pasteur's principles, are also close at hand.

Facing this centre of attraction, and forming part of the exhibits of the town of Paris, the chemist will find subjects of interest in the specimens from the Montsouris Observatory and the Paris Municipal Laboratory. The new apparatus which M. A. Dupré has brought into use for the analysis of food are shown, and some ingenious pipettes, but there are also many things that offer no novel feature.

Passing these two scientific collections, we at once enter upon the all-important question of water-supply and drainage. An inner chamber is entirely devoted to models bearing on these questions, and a great portion of the surrounding wall space is covered with drawings on the same subject. Official mortality statistics are given, with innumerable charts, &c., on the prevalence of typhoid fever, and maps of the districts most affected; so that we have side by side both cause and effect. In this the exhibits relating to water-supply are far more satisfactory than those concerning the drainage of Paris. It will be seen that Paris has two water-supplies, one for domestic purposes, and the other for watering the streets and industrial use. This necessitates the creation of two different systems of canalisation. The waters of the Seine, the Ourcq, and the Marne should only be used for watering purposes; but unfortunately this is not always the case. The pure waters of the Vannes and the Dhuis are sometimes insufficient for the domestic requirements of the capital. Maps, plans, drawings, and lengthy reports will be found affording the fullest information on all these points, and M. Couche, the chief engineer, may be warmly congratulated on the pains he has taken to make these matters clear and to give the fullest details in a terse and most intelligible manner. The newest features of this exhibit are the photographs and aquarel drawing of the water works at Ivry. They were completed last year, and can raise 84,000 cubic metres of water to a height of sixty-three metres in twenty-four hours. This great work was accomplished at the cost of £80,800. The new reservoir at Villejuif, constructed to receive this water, will cost £55,000, and when it is finished will supply a very powerful and much-needed flush for the Paris sewers. Indeed, these great works were undertaken with the view of assisting the projects of water drainage so warmly advocated by the partisans of English systems in Paris. But immediately opposite we find the whole scheme challenged by the presence of the apparatus employed by the town for carrying out M. Berlier's system of pneumatic drainage. The Municipal Council has sanctioned the application of this system to the richest and most fashionable district of Paris; it certainly constitutes the most novel and interesting feature of the Paris exhibits. Whatever may be said for or against it, and we have not space to enter upon this controversy at the present moment, it is the one new feature; and, considering the large scale on which it has been applied, the very weighty scientific and popular support it has received, the Berlier system has become a practical as well as a theoretical question.

The opposing theory is of less interest to Englishmen, for it is simply an attempt to impose on a different people and under different conditions an almost servile imitation of our English method of water drainage. A map shows that thirty-eight houses, barracks, or public establishments in Paris are now entirely drained into the sewer. A model and many plans and drawings of these buildings are given, but we must confess that most of them are unsatisfactory. The ventilation of the soil pipes is very imperfectly indicated: we failed to detect any provision for the inlet of air; and, though syphons are used, they are apparently not ventilated, and some seem so placed as to incur at least a slight danger of syphonage. A project for some villas in the Commune de Bondy, by M. Masson, is far in advance of anything that has actually been done; but unfortunately this is only a project. In this case the manholes with open channels and air inlets, as suggested by Sir Robert Rawlinson, are provided; and thus we find the best, instead of the worst, features of English drainage reproduced. But houses such as that of the rue Albouy, the house inhabited by the celebrated author Francisque Sarcey, in the rue Douai, and other specimens of what is known as the official installation of the *tout à l'égout*, only repeat the very defects which it is the object of such institutions as the Health Exhibition to prevent.

In Paris there is little or no water within the houses available for the purpose of flushing the soil pipes. Hence the law insists that these must be at least eight inches in diameter and vertical. Taking these facts into consideration, the celebrated firm of Rogier and Mothes, who manufacture from 30,000 to 40,000 closets per annum, may be congratulated on having made the best of bad circumstances. Where there is not an abundant flush of water the syphon trap can only be a source of danger. Messrs. Rogier and Mothes have, therefore, an iron enameled valve with a counter-weight in one piece. This is adroitly balanced, the pivot resting on a glass socket. The weight presses the valve tightly against the indiarubber flange that goes round the bottom of the closet pan. This is nicely adjusted so as to prevent the sewer gas passing through. Also the valve, holding a small quantity of water, forms a slight water seal, though the indiarubber is in this case the best protection. Yielding to weight, the valve opens automatically, and is so shaped that this action throws its contents down the soil pipe. At the bottom of the soil pipe, and sealing the opening into the cesspool another and larger automatic valve of the same description is placed. Indeed, as these valves cannot get out of order, any number of them may be used and placed at short intervals one from the other. Provision for the inlet and outlet ventilation of the soil pipes is also made, and this system of trapping is applied equally to waste-water pipes and the mouths of sewers. In the latter case the counter weight being much greater, a large volume of water accumulates before the valve opens, and thus an automatic and sudden flush is produced. The solids on the valve are

thrown well forward, a fact we have tested with heavy pieces of wet sponge, clay, &c. These closets, combined with the Berlier system, would enable the Paris authorities to drain the town without increasing to any large extent the water-supply. For countries where water is scarce, or the levels unfavourable, the Berlier system and Rogier and Mothes' closets offer a way out of the difficulty which merits the careful attention of the sanitary authorities. In the closets there is nothing to break; the action is automatic, and the same may be said of the apparatus for the pneumatic drainage. The successful working of such a combination would in no wise depend on care and cleanliness of the inhabitants, and is therefore especially suitable to populations who are ignorant of sanitary matters and have not been taught how to cope with sewer gas. In this latter respect, even the most prominent authorities of Paris have made a grave mistake, and a great educational work must still be accomplished before the French householder has learnt how to protect his dwelling from the foul emanations of soil pipe, sewer, and cesspool.

### FOOD ADULTERATION AND ANALYSIS.

In a paper read at the Conference on this subject on the 14th inst., Dr. JAMES BELL remarked that the practice of adulteration is by no means of modern date, but has existed, more or less, from time immemorial. There is evidence that it was practised by the Greeks and Romans, and it has probably been co-existent with the development of commerce. The earliest enactments in this country in reference to food appear to have had a much wider scope than those of recent years, for they embraced the quality as well as the genuineness of the article, and dealers in foods or drinks which, from whatever cause, were considered as unwholesome were fined once or oftener, and then, if found incorrigible, were condemned to bodily punishment. With the exception of one or two Acts relating to the adulteration of bread, all the legislation upon articles of food from the time of George I. to the year 1860 had reference to the protection of the revenue, and therefore only indirectly guarded the health or pocket of the consumer. "In the year 1851 there was considerable agitation amongst planters and others interested in the production and sale of coffee, in consequence of the falling off in the consumption of that article caused by its wholesale admixture, as permitted by Treasury minute, with chicory. Petitions were presented to both Houses of Parliament on the subject, and it was perhaps the general attention directed at that time to this matter which induced the proprietors of THE LANCET to perform a public service of the highest value. In 1851 and several following years, at their own expense, they instituted an extensive inquiry into the character of the food, drink, and drugs sold in London, and engaged chemical and microscopical analysts for that purpose. The results showed that adulteration prevailed to an alarming extent, and that in many cases the adulterants were of a nature highly injurious to health. The Editor of THE LANCET showed his confidence in the analysts employed by publishing in that journal the results of the analyses, whether favourable or otherwise, together with the name and address of the vendor. The increased public attention thus caused, resulted in an inquiry by a Select Committee of the House of Commons in 1855, which reported that adulteration of food, drink, and drugs was very prevalent and that some of the adulterants used were of a poisonous nature. Following upon that report, and as a consequence thereof, the first general Act in this country was passed in the year 1860. This Act may have exercised to some extent a deterrent effect, but beyond this the practical outcome of it was but small, for the appointment of analysts was permissive, and the obtaining of samples for analysis was left to private purchasers. Another Act was passed in 1872, extending the right of appointing analysts to boroughs having separate police establishments, but still left such arrangements optional. A most important provision, however, was made for the purchase of samples by local officials, and the right was given to private purchasers to have samples analysed on payment of a small fee." The adoption of the Acts of 1860 and 1872 was by no means general, but was principally confined to London and the large towns; and even where adopted, the action taken was often of a very restricted character. The prosecutions which ensued, however, were sufficiently numerous to cause a general outcry from tradesmen about alleged miscarriages of justice; and in answer to petitions from most of the large towns, the Government decided to appoint another Select Committee of the House of Commons to inquire into the working of these Acts. This Committee recommended that the Acts of 1860 and 1872 should be repealed, and that a new, extended, and compulsory Act should be substituted for them. The chief amendments suggested were the inclusion of the fraudulent abstraction of an important property of any commodity, such as the removal of cream from milk, as a punishable offence; the examination of tea on importation; better regulations for obtaining samples, and for securing the appointment of qualified food analysts. To meet an important want provision was also made for obtaining an independent analysis in case of dispute. Upon the lines indicated in this report was framed the Bill which passed into law as the Sale of Food and Drugs Act, 1875, and which is the Act now in force, though amended in some respects by the Sale of Food and Drugs Amendment Act, 1879. It is much to be regretted that an evident unwillingness has been found on the part of some local authorities to bring these Adulteration Acts into operation. The Acts are practically a dead letter in some districts, even where nominally complied with, owing to the small number of samples purchased, or the conditions under which the purchases are made. In the twelfth report of the Local Government Board it is stated that in some cases "scarcely any attempt is made to conceal the official character of the buyers, or the purpose for which they are buying"; and the Board add, what must be perfectly obvious, "that unless the samples obtained by the inspector are of the quality ordinarily sold to the public, the object of the purchase is frustrated." In some districts the local authorities have been much discouraged by the small fines imposed by the magistrates, even when the offence has been committed more than once. There can be little inducement for them to carry out these Acts energetically when they find that after going to all the expense and trouble of the purchase and analysis of samples, and taking the necessary legal proceedings against a fraudulent tradesman, the heinousness of his offence is assessed by the magistrates at such a trifling sum as cannot be held to be a deterrent penalty, but one readily covered by the illegitimate profits of a few days. The tendency in recent years has been to place increased discretionary power in the hands of magistrates. For many years prior to 1879, their discretion in matters of fines in revenue cases was limited to reducing penalties to not less than one-fourth of the amount named in the Act. By the Summary Jurisdiction Act of 1879, however, they were given full discretionary power in first offences, but the former restriction remains in force for second and subsequent offences. Some such regulation may be found desirable under the Sale of Food and Drugs Acts, especially in cases where the vendor is the actual adulterator.

## THE OLEATES AS THERAPEUTIC AGENTS.

THESE substances, which have lately come into evidence as therapeutic agents, formed the subject of a lecture which Dr. Shoemaker, of the Jefferson Medical College, Pennsylvania, U.S., lately delivered at the Westminster Hospital. After expressing the pleasure which he felt at addressing a body of English students for the first time, he proceeded to describe the imperfections of the oleates hitherto manufactured, which were not, he said, oleates at all, but merely solutions of oleic acid and the various bases, and in addition, owing to their oleic acid being derived from the "red oil" of the candle makers, they invariably contained a large proportion of oxyoleic acid and various other compounds, all possessed of an irritating action on the integument. He alluded to the first descriptions of the oleates by Chevreul, and later, 1872, their more definite classification

by Attfield and Marshall, and lastly, their true chemical combination as described by Dr. Shoemaker himself before the Medical Society of the State of Pennsylvania in 1879. Dr. Shoemaker claimed to have overcome the disadvantages attached to the employment of the older oleates, not only by having obtained definite chemical compounds instead of the unstable, unreliable solutions of oleates hitherto sold as such, but also that by drawing his oleic acid from other sources he has been enabled to produce it chemically pure and in a condition favourable to the formation of definite oleic salts with any given metal. Dr. Shoemaker insisted on the impropriety of employing any of the various petroleum products, vaseline, &c., as a basis for ointments, either of oleates or not, the animal fats having much more affinity for animal tissues than the former, and penetrating the epidermis and glands much more easily and completely. This he had established by a series of experiments extending over many years, both in the physiological laboratory on the lower animals and clinically in the wards, where one set of cases were treated with the metal or alkaloid in a petroleum basis, and a second group where lard was the vehicle. The results went to show that absorption took place much more rapidly and effectually in the latter set of cases than in the former. He remarked incidentally that the alkaloidal oleates were exclusively local in their action, no trace of them being obtainable in the secretions or excretions, although large quantities were used. For instance, the oleate of quinine, which in the hands of certain practitioners is said to possess a controlling influence over malarial fevers, has proved inert in the many cases which have been treated by its means by Dr. Shoemaker, nor was there any evidence of its having been absorbed. Veratria, similarly used, demonstrated even more markedly this difference. The lecturer next considered the individual oleates of the metals, the first being the oleate of aluminium; this is prepared by treating the sulphate of aluminium with sodium oleate, the result being a powder which, combined with a fatty substance, forms an ointment of service in muco-purulent discharges from the cutaneous surface, as, for example, in intertrigo occurring round the breasts and in the inguinal regions in eczema, and as a dressing for burns. It may be used in the proportion of from five to thirty grains to the ounce of lard. The arsenicum oleate, a reddish-brown waxy substance, is a preparation which, rubbed down with lard in from five to sixty grains to the ounce, according to the effect desired, forms a most important alterative and escharotic, of use in the treatment of epithelioma, ulcerating lupus, and in old chronic ulcers. Bismuth oleate, a pearly unctuous material, is a valuable emollient application in the various forms of rosacea, acne, sycosis, &c. Cadmium oleate, a yellowish-white mass, combined with lard in the proportion of from five to fifteen grains to the ounce, has a marked astringent action bordering on an escharotic, and has been extensively employed in the treatment of glandular enlargements and thickening of the integument. Copper oleate, a beautiful green substance, mixed with lard in from ten to sixty grains to the ounce, yields an elegant preparation, which is especially effective in ringworm, also in favus and tinea versicolor, or chloasma. The oleate by itself, melted and spread on muslin or leather, is of great service in thickened conditions of the integument, as corns, warts, and bunions. The oleate of iron is a reddish-brown mass, readily soluble in the fats, and has a decidedly styptic action, and may be used with benefit in arsenical sores. Lead oleate, similar in appearance to the cadmium oleate, when mixed with equal parts of lard produces an elegant ointment, which is preferable in its action to the litharge ointment, and has been much employed with satisfactory results in the various forms of eczema. Mercuric oleate made into an ointment with lard is useful as a discutient to inflammatory exudations, in thickened conditions of the integument, such as corns and warts, in pigmentary deposits, and parasitic affections. The mercurous oleate is a new preparation, which I have quite recently described for the first time, and may be used for the same class of cases where more decided effect is required. It is one and a half times as strong as the preceding, and it is the oleate which should be used in the inunction treatment of syphilis. Nickel oleate is a greenish waxy mass, which Dr. Shoemaker has employed in an ointment containing from five to fifteen grains to the ounce, as an application to hard, horny granulating surfaces. It resembles cadmium oleate in its astringent and somewhat escharotic effects. Silver oleate is a brownish pulverulent substance, and in the form of an ointment is valuable applied to ulcers, especially bedsores, in pruritus, erysipelas, and the old indurated ulcers met with on the extremities. The last of the series, the zinc oleate, is a white, pearly, impalpable powder, and is the most important of all the oleates. When diluted with an emollient powder it forms an excellent toilet powder for the face, particularly in seborrhœa oleosas, or "shiny face," and in intertrigo, and as an ointment it is most valuable in acute eczema, hyperidrosis, and bromidrosis. Dr. Murrell has used this preparation extensively, and has reported very satisfactory results from its employment.

## THE NEW INFIRMARY AT FULHAM.

THIS building, situated near Hammersmith Station, and opened by Sir Charles Dilke on the 25th ult., has been erected for the accommodation of 446 sick poor, with an ample nursing staff, and is perhaps the most complete establishment of its kind consistent with the fact that it has been erected at a much less cost than similar recently erected establishments, although containing every requisite of a good hospital. The contract for the whole of the infirmary buildings, without machinery or fittings, was let in 1882 for £40,700. To this sum has been added further contracts for heating apparatus, engines, boilers, hot-water supply, laundry machinery, &c. These, with the original contract for buildings, and certain additional and extra works, also fittings and fixtures throughout, bring up the total cost of the institution (without furniture) to £51,422. The infirmary proper, with all its sanitary appliances, machinery, gas and water-supply, fittings and fixtures, has thus cost but £116 per bed. The ground plan comprises a central block, in which are placed the whole of the official and administrative departments; on the right hand side of the central block are placed two main blocks or pavilions for males, and one subsidiary one for special cases; and on the left two main blocks for females, and a subsidiary one for special cases. Between the two wards on each side are placed the receiving-rooms for patients. The main blocks are three storeys in height, and consist of wards ninety-six feet long and twenty-four feet wide, containing thirty-two beds each. Special attention has been paid to the ventilation, heating, and lighting of the buildings. Water for the use of the establishment is supplied at high pressure to all parts, and there are reserve tanks in the tower to contain a supply during any temporary stoppage through repairs to mains or otherwise. Fire mains are carried through every part of the building, and exits have been provided on each floor for patients in case of need. Every possible attention has been given to the sanitary appliances and drainage. All the lavatories, &c., are lined with white glazed bricks or tiles. No pipes are directly connected with the drains, nor can any effluvium enter the building. The drains have a good fall, and all the man-holes are ventilated. The guardians of the Fulham Union are to be congratulated on the acquisition of such an infirmary for the reception of their sick poor.

## THE HIGHLANDS OF BRAZIL AS A HEALTH RESORT.

WE have received some notes on this subject from Mr. Arthur E. Jones, a gentleman whose complete recovery from indubitable phthisis after a residence in these mountains is vouched for by Dr. W. H. Walshe. On the east coast of South America from lat. 22° south to 26° a range of mountains runs parallel to the coast line and forms the boundary of the highlands of the provinces of Rio de Janeiro and S. Paulo. These provinces consist for the most part of table lands of 2000 to 3000 feet elevation, sloping gradually towards the interior and having a precipitous edge next the coast, and it is the climate of the region just within this edge that is specially eulogised by our correspondent. The towns in this district, being almost on the tropic of Capricorn, at an elevation varying between 2300 ft. and 2900 ft. above sea-level, have the sunshine of the tropics and the mildness and freshness of the temperate zone. The annual rainfall is about fifty inches, but since as much as an inch of rain some-

times falls in an hour, this fact must not be supposed to indicate a wet climate. At S. Paulo during 1875, rain fell on twenty days in the morning and afternoon, on eleven days in the morning only, and on fifty-nine days in the afternoon only. There is no winter as it is understood in England, but there is a season of six or eight weeks like an English May or September, when a fire is pleasant in the evening, and when there is occasional frost in the early morning in exposed situations. A most remarkable feature of the climate is the steadiness of the atmospheric pressure, the variations of the barometer being almost *nil*. The range during one whole year was only 0·7 in., rarely exceeding one-third of an inch during any one month. During 1875 the number of days on which the sun shone for the whole or greater part of the day was 245, distributed as follows:—January, 17 days; February, 14; March, 17; April, 21; May, 23; June, 22; July, 23; August, 24; September, 18; October, 22; November, 21; December, 23. During the year the maximum only once rose as high as 90° F. in the shade, twice to 88°, five times to 87°, twice to 86°, eighty-nine times it ranged from 81° to 85°, two hundred and six times from 70° to 80°, fifty times from 60° to 69°, and ten times from 52° to 59°. Nova Friburgo is the place most recommended as a resort for invalids. It contains a hydropathic establishment, conducted with much success by an Italian; and several Brazilian and German hotels, at which the cost of living amounts to about 9*s.* to 10*s.* 6*d.* a day.

# Public Health and Poor Law.

## LOCAL GOVERNMENT DEPARTMENT.

### REPORTS OF MEDICAL OFFICERS OF HEALTH.

*Birmingham* (*Urban*).—This large borough enjoys special advantages in connexion with elevation of site, undulation of surface, porosity of soil, &c., and, having regard to its population of nearly 415,000 persons, it does not stand badly as to general mortality when compared with other large towns and cities. Last year the death-rate per 1000 was 21·0. The vaccination statistics show very different results according to the unions in which the various parts of the borough are situated. In the Birmingham and King's Norton Unions the work is well done, but this is not so in the Aston Union, and Dr. Alfred Hill points out that while in Edgbaston, in the King's Norton Union, the percentage of children who live to the age of three months and remain unvaccinated is only 2·2, in Aston as many as 8·1, or nearly four times the number, evade the law in this respect. In this connexion we find that small-pox was very prevalent during the third quarter of 1883, and that the prevalence was maintained during the present year. Last year 1090 persons were treated in the borough hospital; and having regard to the interest now taken as to the possible distribution of small-pox from hospitals as centres, we note with some surprise that whereas a map is given showing the distribution of such diseases as measles, scarlet fever, and typhoid in the various parts of the borough, no such information is forthcoming as to small-pox. Scarlet fever was also very prevalent in 1883, this disease having caused 326 deaths. During the year a new isolation hospital intended only for the reception of cases of fever was opened, the pavilions already erected being a first instalment of a more complete establishment. As many as 412 deaths from diarrhœa took place, some 90 per cent. of these occurring in children under five years of age. Dr. Hill is of opinion that the great sacrifice of infant life from this cause during the hotter seasons of the year, though doubtless dependent on a number of causes, is in Birmingham at least largely due to the ignorance of the vast majority of mothers as to the proper mode of feeding and rearing their offspring. Dr. Hill's report is, as usual, a very comprehensive summary of a large number of subjects relating in various ways to the health of the borough under his supervision.

*Hartismere* (*Rural*).—Steady progress is being made in this district. The death-rate for 1883 was only 14·2 per 1000, and the death-rate under one year of age was as low as 9·5 per cent. of the registered births. Much has been done towards improving the water-supplies, and Dr. Barnes expresses the opinion that the sanitary state of the district is better than in any former year. There were eight outbreaks of diphtheria, but only one death occurred. Three of the outbreaks were in Mellis, a small village principally composed of houses scattered round a large undrained green, consisting of stiff wet clay. The outbreaks appeared to be quite independent of each other, and, as in former years, the occurrence of diphtheria in this place cannot be very satisfactorily accounted for.

*Middlesex and Herts Combination.*—Dr. Saunders prefaces his reports on the several sanitary areas within his combined district by a general report to all the authorities, and he is able to point out that during the past decade so large an increase in sanitary work has been carried out, and so much increased interest has been created in the matter of public health, as to augur well for future progress in the matter. Turning to details, we find him once more exhorting the Barnet urban authority to provide for the adequate cleansing of their sewers, either by requiring proper means of flushing to the waterclosets, or, if this is not done, by some special scheme for sewer flushing. Our opinion is that no watercloset should be tolerated that has not proper flushing apparatus, and this provision should, wherever possible, be insisted on. A somewhat similar want is felt in East Barnet. The undrained state of Hemel Hempstead is adverted to, and it is distinctly stated that to this cause are due the recurring outbreaks of enteric fever. The inhabitants themselves seem mainly responsible in this matter, being opposed to the expenditure of money. The need for hospital provision, as for example at Hemel Hempstead, is pointed out, and at Tring it is explained that by the use of the excellent hospital at Albury, belonging to the Berkhampstead rural authority, the spread of infection has been effectually stayed.

*Milton-next-Sittingbourne* (*Rural*).—This rural sanitary district, according to the census report, has an area of 28,350 acres, or forty-four square miles, and comprises sixteen parishes. The population in 1881 was 11,195, and Dr. Sutton, in his report for 1883, estimates the population in that year to be but 11,344, and only 149 more than it was at the time of the census; the method adopted for the estimate is not stated. The birth-rate during the year was stated to be 35 per 1000, decidedly high for a rural district; while the 175 deaths gave a rate of only 15·1, which is over-stated if the population be under-estimated. The births being 387, it is added that "the deaths under one year were 49, being to registered births under 8 per cent." Presuming that there is no misprint in the report, the proportion of deaths under one year to births was 12·7, instead of under 8, per cent., and this proportion is exceedingly high for a rural district. In other respects the report is a favourable one, the death-rate from the principal zymotic diseases not exceeding 1·5 per 1000, and being mainly due to ten deaths from whooping-cough. Dr. Sutton is able to report that the local estimation of the value of the infectious diseases hospital is increasing, and the prejudice against its use is disappearing. This augurs well for the future sanitary welfare of the district. The report of the inspector shows that much useful work was done in his department during the year.

*Hackney.*—Dr. Tripe reports that sanitary work has been more actively carried out in his district during 1883 than in any year since 1866, the causes being, first, the stimulus to work given by the outbreak of cholera in Egypt, and secondly, the inspections which were made in connexion with the question of work under the Artisans and Labourers' Dwellings Acts. A description follows of some of the worst property in the district; and as regards some of the houses, it is stated that unless they are pulled down very shortly compulsory action will have to be taken. Special reference is made to the danger resulting from brick drains under houses. These old culverts almost invariably contain a considerable deposit of filth, and the last place where they ought to be tolerated is beneath dwelling-houses. As regards what are generally known as tenement houses, it appears that for many years past a large amount of inspection and improvement has been carried out, and that the regulations hitherto in force require a larger amount of cubic space per head than is the case in any other metropolitan district. New regulations have, however, now been drawn up and submitted to the President of the Local Government Board, with a view of bringing them into conformity with the more recent statutes relating to the subject. The general improvements effected in the district include a large amount of disconnexion of sink and overflow

pipes, improved water services to closets and otherwise, the provision of cisterns instead of butts, the substitution of efficient traps for the imperfect bell-traps, and the cleansing of cow-sheds and slaughter-houses, &c. All such work, when attended to in its various details, removes from amongst the people constant sources of nuisance and ill-health, and must hence be regarded as amongst the most important that can be carried out. The death-rate for Hackney during the year was at the rate of 17·6 per 1000, as opposed to 20·4 in London generally. Some of the mortality was due to small-pox, apart from cases of strangers brought to Homerton Hospital, and Dr. Tripe gives some interesting account of one outbreak and of the protective power of vaccination. The number of houses and articles disinfected during the year was very considerable.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 5507 births and 3726 deaths were registered during the week ending the 12th inst. The annual death-rate in these towns, which had been so low as 18·7, 19·2, and 19·5 per 1000 in the three preceding weeks, further rose last week to 22·2. During the thirteen weeks of last quarter the death-rate in these towns averaged 20·8 per 1000, against 20·9 and 21·5 in the corresponding periods of 1882 and 1883. The lowest rates in these towns last week were 11·1 in Plymouth, 12·5 in Derby, 13·3 in Bristol, and 13·9 in Brighton. The rates in the other towns ranged upwards to 24·7 in Birkenhead, 24·9 in Liverpool, 25·2 in Nottingham, and 25·9 in Halifax. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 495, 514, and 572 in the three previous weeks, further rose to 876 last week, the increase being mainly due to the greater mortality from diarrhœa; they included 495 from diarrhœa, 103 from whooping-cough, 102 from measles, 71 from scarlet fever, 51 from "fever" (principally enteric), 32 from small-pox, and 22 from diphtheria. No death from any of these diseases was registered last week in Derby, while they caused the highest death-rates in Wolverhampton, London, and Nottingham. The greatest mortality from diarrhœa occurred last week in Nottingham, London, Leicester, Bolton, Leeds, and Preston; from whooping-cough in Sunderland and Leicester; from measles in Halifax and Wolverhampton; and from scarlet fever in Cardiff and Sheffield. Of the 22 deaths from diphtheria in the twenty-eight towns 15 occurred in London and 2 in Brighton. Small-pox caused 21 deaths in Registration London, exclusive of 15 London cases registered in the metropolitan asylum hospitals situated outside Registration London; also 6 in Liverpool, 2 in Sunderland, 1 in Sheffield, 1 in Hull, and 1 in Cardiff. The number of small-pox patients in the metropolitan asylum hospitals, situated in and around London, which had been 1290 and 1368 on the two preceding Saturdays, declined to 1240 at the end of last week; the number of new cases admitted to these hospitals declined to 179 last week, from 354, 260, and 266 in the three preceding weeks. The Highgate Small-pox Hospital contained 79 patients on Saturday last, showing a further decline from numbers on preceding Saturdays; 18 new cases were admitted last week, against 22 and 20 in the two previous weeks. The deaths referred to diseases of the respiratory organs in London, which had been 218 and 231 in the two previous weeks, declined to 206 last week, but exceeded the corrected average by 10. The causes of 101, or 2·7 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bradford, Newcastle-on-Tyne, and Plymouth. The largest proportions of uncertified deaths were registered in Birkenhead, Manchester, Sheffield, and Cardiff.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been equal to 20·6 and 21·8 per 1000 in the two preceding weeks, was 21·0 in the week ending the 12th inst., and was 1·2 below the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 12·5 and 16·4 in Leith and Edinburgh to 29·4 in Paisley and 33·6 in Perth. The 507 deaths in the eight towns included 32 which were referred to diarrhœa, 23 to whooping-cough, 10 to scarlet fever, 10 to measles, 9 to diphtheria, 3 to "fever," and not one to small-pox; in all 87 deaths resulted from these principal zymotic diseases, against 86 and 78 in the two preceding weeks. These 87 deaths were equal to an annual rate of 3·6 per 1000, which was 1·6 below the mean rate from the same diseases in the twenty-eight English towns. The 32 deaths attributed to diarrhœal diseases showed a considerable increase upon recent weekly numbers, and exceeded by 11 the number in the corresponding week of last year; they included 10 in Glasgow, 6 in Dundee, and 5 both in Leith and in Paisley. Diarrhœal fatality in the Scotch towns last week was, however, less than half that recorded in the English towns, after correction for difference of population. The 23 fatal cases of whooping-cough in the Scotch towns showed a marked decline from recent weekly numbers, and included 11 in Glasgow, 5 in Edinburgh, and 4 in Aberdeen. Nine of the 10 deaths from scarlet fever, showing a considerable increase upon the numbers in recent weeks, occurred in Glasgow. The 10 fatal cases of measles corresponded with the number in the previous week, and included 7 in Glasgow. The deaths referred to diphtheria, which had been 7 and 10 in the two previous weeks, were 9 last week, of which 2 occurred in Glasgow, 2 in Edinburgh, and 2 in Aberdeen. The 3 deaths from "fever" showed a decline from the numbers in recent weeks. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 85 and 83 in the two previous weeks, declined to 54 last week, and and were 27 below the number returned in the corresponding week of last year. The causes of 80, or nearly 16 per cent., of the deaths in the eight Scotch towns last week were not certified.

### HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been equal to 27·1, 26·2, and 21·0 per 1000 in the three preceding weeks, was 22·3 in the week ending the 12th inst. During the thirteen weeks of last quarter the death-rate in the city averaged 26·5 per 1000, whereas the rate during the same period did not exceed 19·9 in London and 21·6 in Edinburgh. The 150 deaths in Dublin last week showed an increase of 9 upon the number in the previous week, and included 13 that were referred to the principal zymotic diseases, against 14 and 18 in the two preceding weeks; 5 resulted from "fever" (typhus, enteric, or simple), 4 from whooping-cough, 3 from scarlet fever, 1 from diphtheria, and not one either from small-pox, measles, or diarrhœa. These 13 deaths were equal to an annual rate of 1·9 per 1000, the rate from the same diseases being 6·8 in London and 2·5 in Edinburgh. The deaths referred to "fever" in Dublin, which had been 7, 5, and 2 in the three previous weeks, were 5 last week. The 3 fatal cases of scarlet fever showed a decline of 7 from the number in the previous week, while those of whooping-cough showed an increase. Nine inquest cases were registered, and six deaths were referred to violence; 54 deaths were recorded in public institutions. The deaths both of infants and of elderly persons showed an increase upon the numbers returned in the previous week. The causes of 16, or rather more than 10 per cent., of the deaths registered during the week were not certified.

## THE SERVICES.

ARMY MEDICAL DEPARTMENT.—Deputy Surgeon-General William Stewart, M.D., is granted retired pay, with the honorary rank of Surgeon-General. Brigade Surgeon William Henry Corbett, M.D., to be Deputy Surgeon-General, vice W. G. N. Manley, V.C., granted retired pay. Brigade Surgeon John Henderson Whittaker is granted retired pay, with the honorary rank of Deputy Surgeon-General. Surgeon-Major Samuel Stacy Skipton, M.D., to be Brigade Surgeon, vice W. H. Corbett, M.D. Deputy Surgeon-General T. W. Fox has been appointed to act as Principal Medical Officer of the British Army of Occupation in Egypt, vice Surgeon-General J. Irvine, granted special leave of absence to England till September next.

INDIA OFFICE.—Surgeon-Major Henry William Graham, of the Bengal Army, has retired. Surgeon-Major Francis Ronayne O'Kearney, M.D., of the Bombay Army, has been transferred to the retired list.

ADMIRALTY.—Staff Surgeon Donald MacIver, M.D., has

been promoted to the rank of Fleet-Surgeon in Her Majesty's Fleet. Surgeon William S. Lightfoot has been appointed to the *Duke of Wellington*.

ARTILLERY VOLUNTEERS.—2nd Devonshire: Frederick Everard Roe, Gent., to be Acting Surgeon.

RIFLE VOLUNTEERS. — 1st Volunteer Battalion (the Leicestershire Regiment): Surgeon and Honorary Surgeon-Major Edward Ranson Denton resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the Battalion on his retirement.—3rd Forfar (Dundee Highland): Charles Stewart Young, Gent., to be Acting Surgeon.

Brigade Surgeon Elkington, M.D., Grenadier Guards, Staff Surgeon-Major Hamilton, M.D., and Surgeon Pocklington, M.D., 3rd Surrey R.V., are again in charge of the field hospital at the Wimbledon meeting.

# Correspondence.

"Audi alteram partem."

## CHOLERA, ITS ETIOLOGY AND TREATMENT.

*To the Editor of* THE LANCET.

SIR,—I have been anxious for some little time to ask you to allow me to recommend in your pages a treatment of cholera which, in India in 1865, when Surgeon-Major of the 72nd Highlanders, I found, beyond all comparison, more successful than any other I had ever tried, during a rather extensive previous experience of the disease in Canada and the Crimea, as well as in India. I have been hitherto deterred from addressing you by the fact that, although I felt sure that two-thirds of the cases treated at the time I refer to recovered, I had no record of the fact, nor of the number of cases treated. Meeting, however, a few days ago Lieut.-General W. Payn, C.B. (very lately returned to England from the command of a division of the Madras Army), who was Colonel commanding the 72nd Highlanders at the time I speak of, at Poona, near Bombay, and who had taken great interest in the cholera cases which occurred in the regiment, he asked me whether I had published any statement of the treatment I had employed. I told him I had thought of writing to THE LANCET, but that, as above stated, I had no figures to give. He then told me that he had been so much struck with the comparatively small proportion of deaths from cholera in the regiment in Poona in 1865, that he had obtained, before the regiment embarked for England in October of that year, a return of the admissions and deaths from cholera in the 72nd and in the two other European infantry regiments stationed at Poona; that he was pretty sure that in the 72nd there were fifteen admissions and four or five deaths, a statement which quite corroborated my impression as to the proportion of recoveries, a very large proportion in true Asiatic cholera. General Payn believes he still possesses the return, and when he can lay his hand upon it he will let me have particulars.

I will now state what the treatment was. A dose of calomel, followed immediately by cold affusion, frequently applied. What led me to think of this treatment was this. At Mhow, Central India, in 1859, when some cases of cholera occurred in the 72nd I was advised, by the late Deputy Inspector-General of Hospitals, Dr. Archibald Stewart, to try the cold affusion, which, he said, had been used with success in Bengal by a medical officer, whose name I am sorry I do not remember. I did so, and certainly with some success, inasmuch as the cramps were much relieved by it, and reaction to some extent obtained. I am writing from memory, having no notes of these cases, but (whether it was because I did not repeat the baths sufficiently often or not I cannot tell) I think I had not much more ultimate success than I had obtained under other methods of treatment. A few years later it occurred to me that, as in cholera the secretions are arrested, if I could introduce into the system a dose of calomel, which is said to promote all the secretions, and could then induce a certain amount of reaction by the cold affusion, the calomel might do good, being, as it were, on the spot, ready to promote secretion. When, then, cholera appeared in the regiment in 1865, I adopted this treatment. I usually began with ten grains of calomel, and if there was much vomiting, five grains more were given. The patient, even if in a state of complete collapse, was then stripped of all clothing, carried in the horizontal position to the bath-room, where he was laid on a bedstead without any bedding. Three or four large earthenware "chatties" of cold water, the coldest we could get, were then dashed over him. He was rubbed dry with towels as rapidly as possible and replaced in his bed. The patient almost invariably felt relief; the cramps were mitigated, and sometimes in cases of collapse the pulse could now be just felt. In about five minutes the bath was repeated as before, after which, even in the worst cases, the pulse could now generally be felt; the skin became warmer, and the patient would beg for another bath. With reaction, vomiting and purging gradually ceased. The cold affusion was used at least five or six times in each case, at intervals varying according to circumstances; and, as a rule, after each application of it the pulse grew stronger and all symptoms improved. Experience had taught me long before that all piling of bedclothes on a cholera patient, the application of heat, as by hot bottles, hot turpentine, &c., were almost loathed by him, and that the only thing he ever begged for, besides water to drink, was to have his limbs rubbed when he was tortured with cramps. In the intervals between the baths, the patient had merely a sheet thrown over him, with a thin blanket or coverlet; and if there were any lingering cramps, the parts affected were rubbed with the dry hand. Such was the treatment. I need hardly add that when all immediate danger was over, the patient always required the most careful and watchful treatment, not only for days, but for weeks. Sometimes diarrhœa would come on, or consecutive fever, rendering recovery very slow. One patient, after recovery from cholera, succumbed to mucous enteritis fourteen days after admission. Only one patient I failed to rally from collapse. He was a staff sergeant, who lived by himself in a small detached bungalow, and was found early one morning by a soldier lying on the floor of his bedroom in a state of extreme collapse. I could make no impression on this case; he was too far gone when I saw him.

I am, Sir, yours faithfully,

W. C. SEAMAN, M.D.,
Deputy Inspector-General of Hospitals.

Junior United Service Club, S.W., July 16th, 1884.

*To the Editor of* THE LANCET.

SIR,—It is nigh twelve months since you gave insertion to an article by me on cholera epidemic, wherein I expressed the view that cholera is a specific fever analogous and of a severity inferior to yellow fever; that the temperature is raised, and that the low indication is caused by the abstraction of heat by the surrounding media, the fevered body being incapable of preserving its temperature uniformly; that cholera is not caused by a fungus, as maintained by Klebs, De Bary, and Hallier, and now advocated by Koch, nor is it dependent on any peculiar fomentable condition of the underground moisture layer as propounded by Pettenkofer; and that it is contagious, and may be originated and propagated even when the water is good. Surgeon-Major Fitzgerald took exception to the statement that the water of any Indian village is good. If the Indus, where it is two-thirds of a mile wide, running five miles an hour, and averaging twelve feet, can be polluted for over two months, then the drinking water of Kotree in 1869 was bad. But I look upon the insinuation as absurd. A few authorities deny the contagion because they have witnessed attendants escape contagion. Well, if attendants did not escape contagion; any epidemic of a contagious disease would affect the entire population of a country. Dr. Cuningham and Sir J. Fayrer consider cholera a malarial or effluvial disease, and Sir J. Hunter deems the poison an entity which is capable of being nursed through diarrhœal cases, and stored up till the period for an epidemic arrives in the unhealthiness of the people. I trust no one believes that cholera or its contagium existed in the Ark as a specific thing; this being granted, it follows that cholera may under extraordinary and exceptional circumstances arise spontaneously. In the epidemic through which I passed I had many cases to which a trace of contagion communication could not be assigned, but the vast majority were otherwise. Spontaneous combustion is possible, yet in most instances of conflagra-

tion the originating and propagating cause is the kindled spark. No one thinks that other than insanitary conditions are inviting to cholera. The meteorological states which favour disease in plants and animals, and precipitate it in man, nurse cholera: heat, moisture, stillness, and free electricity have developed disease like a shadow passed, but for this purpose it is essential that the constitution of the plant or animal should be below par. Most thinkers concede that cholera observes a periodicity in its occurrence; whether incident to moral causes (like the commercial panics), to physical (like the floods), or celestial (like the sun-spots), has not been argued.

The statement which I made in my article in THE LANCET, July 28th, 1883, that cholera has a predilection, or seems to wear itself out amongst a people, is expressed in other words by Dr. Darwin—"that the effluvia or exhalations from one group of people may be poisonous to another group," and disease may break out among a people who come into contact with another, even though the latter have no positive manifestation of such." Dr. Blanc has contributed cases to THE LANCET where the temperature was raised in every stage. The regulators of metabolism are totally disarranged in the severer forms of fever; the nervous system is numbed; the excretory and genetic organs are, as it were, paralysed. Thus is it that stimulating frictions, shower baths, emetics, cholagogues, &c., do good by acting on the nervous controllers of metabolism. The cholera witnessed by Dr. Lucas in new-born children discards at a stroke the fungus theory. To show my faith in the proposition "that fungi or bacilli in cholera are mere indices of the disease and not the cause," I would swallow any amount of Prof. Koch's bacilli provided they are well washed in distilled water until the colour of the permanganate solution is slowly affected. "Wherever organic matter decays, fungi sit upon it and devour it" (Pasteur). The world was not made so imperfect as to leave us a prey to such a capricious, insidious, and treacherous enemy as Prof. Koch would describe the cholera bacillus to be.

I am, Sir, yours truly,

JOHN ROCHE, M.D.Q.U.I.,
Retired List, Indian Medical Service.

Mount Clarence, Kingstown, June, 1884.

P.S.—I failed to communicate cholera to hungry pariah dogs through cholera discharges, rotten eggs, carrion, and combinations covered with milk and chapatties.

## RELATION BETWEEN THE SPLEEN AND THE THYROID.

*To the Editor of* THE LANCET.

SIR,—In reading your article in THE LANCET of May 17th, 1884, referring to Tauber's recent experiments on the splenic function and his deductions from those experiments, a clinical point has occurred to me as tending to strengthen very much the conclusion arrived at from experiment—viz., the absence of any physiological affinity between the spleen and thyroid gland.

In 1881 and 1882 I was in a district where goitre is endemic, and among upwards of 2000 cases of goitres of all kinds I find, from reference to my notes of recorded cases, not a single case of anæmia in a goitrous subject. This would be a very remarkable fact if there were really any such affinity as has been asserted between the spleen and the thyroid. Were this the case, we should with reason expect to find at least some degree of anæmia in cases of hypertrophied thyroid. In hypertrophied spleen there is, I think I may say invariably, some degree of anæmia or leucocythæmia, varying directly as the amount and duration of the splenic enlargement. The question at issue being the identity of function of the spleen and thyroid, it appears to me that the fact, which is indisputable, that similar changes in the two organs do not produce similar effects on the mass of the blood, affords conclusive proof that the physiological functions of the two organs are, as far at least as the blood is concerned, dissimilar. Again, splenic enlargement in this country is almost exclusively malarial; thyroid enlargement, on the other hand, owns no such cause. Further, constitutional treatment, which with certainty reduces an enlarged spleen, has not the slightest effect on the enlarged thyroid body. And lastly, inunction of biniodide of mercury ointment in enlarged thyroid never to my knowledge results in cancrum oris, while such a result in malarial splenic enlargement is by no means uncommon in my experience.

The function of the thyroid body remains imperfectly defined; but, whatever that function may be, it appears certain that it has no affinity with the spleen as a blood modifying organ.—Yours faithfully,

GEORGE S. A. KANKING, M.D. Cantab.

Punjab, June 8th, 1884.

## "COVENT-GARDEN MARKET."

*To the Editor of* THE LANCET.

SIR,—As the responsible agent of the Duke of Bedford, I beg to state that your article on the subject of this market seems to have been written under a misapprehension of facts. Within the market quadrangle I unhesitatingly deny that there is any neglect of "ordinary cleansing and the prompt removal of offal." The whole of the market is regularly swept twice a day, and many of the gangways thrice or oftener. The contractor's men and carts are in constant attendance. A large sum is paid for the cleansing, but the work is exceptionally heavy, and is required to be well done. All the sanitary arrangements within the market are under the direct supervision of the estate surveyor, and the costly latrines erected a year or two ago are admitted to be the best of their kind in London. I am privileged to know many of the medical men in the neighbourhood, and I am not aware that the state of health among the salesmen and their servants is otherwise than satisfactory. Obviously a market that is limited in size, that at certain seasons is in use throughout almost the whole twenty-four hours, over which the traffic never ceases, and in which all the commodities sold give out refuse, presents peculiar difficulties in the way of management. There must inevitably be periods of apparent confusion and untidiness. These periods frequently occur, and the more frequently during such seasons as the present, when fruit and vegetables are continually arriving from the suburbs of London, the south of England, the Channel Islands, and the Continent. But no expense is spared to secure efficient control, and especially to have as prompt a clearance of all refuse as the business of the market will permit. For the proper cleansing of the streets leading to the market quadrangle the Strand District Board is wholly responsible, the traffic being regulated by the police. The public crowd their vehicles into these approaches, and by their continuous occupation hinder the contractor employed by the district board from efficiently doing his work. Added to this is the circumstance of shopkeepers blocking up the roadway with their merchandise, instead of keeping it within their shops. These are matters that are entirely under the control of the police. I quite concur in your remark that the cross traffic is an occasion of much inconvenience, but the police alone can deal with this difficulty. Although Covent-garden Market is private property, yet from its popularity and use it has acquired a quasi-public character, and therefore is open to criticism; but that criticism should be reasonable and truthful.

I am, Sir, your obedient servant,

Bedford Office, July 11th, 1884. JOHN D. BOURNE.

## CHOLERA AND SANITATION ON THE RIVIERA.

*(From a Correspondent.)*

THE fact that cholera has spread from Toulon to Marseilles, and thence to Aix-en-Provence, Nimes, Grenoble, &c., not to mention a number of outlying villages, Sollies, La Seyne, Collabrières, and the beautiful valley or gorge of Ollioules, must naturally suggest that, even if Paris and England escape the scourge, the Riviera, in any case, is in the greatest peril. Though cholera is so near at hand, the celebrated health resorts of this favoured district might have escaped had sanitary measures kept pace with the increase of population. The people in the south of France, however, are slow to move, and what little progress has been accomplished is mainly due to the pressure brought to bear by the numerous English residents. Hence the question of drainage, though earnestly discussed at Cannes,

Nice, Monaco, Mentone, and other health resorts, has remained in abeyance at Marseilles and Toulon, where comparatively few English reside. The result, however, in either case, is anything but satisfactory. The sanitary condition of the entire Riviera is such as to offer no security against cholera; and this is a most serious matter, both for the native population and the very large number of English who prolong their lives by wintering in the South.

The nearest health resort to the present centre of the cholera epidemic is the town of Hyères, which is only fifteen miles from Toulon. The sanitary condition of this town is truly deplorable; its death-rate is about 28 per 1000, which, considering the smallness of the population, is high even for the Riviera. Along the main street there is a ditch to which the complimentary name of sewer is given. It is some three feet deep, and simply covered over by the flagstones of the side-walk. The intervening space between the loose fitting stones supplies means of ventilation, but there is no protection against the effects of the sun, which acts directly upon the sewage below. In some places the fall is insufficient, and at one point the sewer had an inclination upwards. But a sudden death in a house opposite this defect alarmed the authorities, and the level has been rectified. This sewer receives the overflow of several cesspools and the slop-water of the neighbouring dwellings. None of the conduits are trapped, so that the foul air of the sewer rises into the houses. There are no proper means of flushing, and the sewage, freely exposed to the heat of the sun, rapidly ferments. Cesspools abound on all sides, and are for the most part built immediately under the houses.

The primitive system of drainage, if it may be so called, still prevalent in the old portions of the various towns on the Riviera, was less dangerous than the unscientific modern methods introduced for the special benefit of foreign visitors. The streets had no sewers, the houses no closets and no cesspools. What little water was used for washing purposes and the kitchen water was poured away into the gutter, which ran down the centre of the street to the river or the sea; and as every town was built on a hill-side, it quickly passed away. Whatever foulness there might be, was at least exposed to the purifying action of the open air, and not drawn up by untrapped pipes into the interior of the houses. With regard to the night soil, this was kept in small wooden barrels, and when two were filled they were placed on the back of a donkey or mule, taken up the hill-side, and used to manure orange, olive, or lemon trees. Thus what is known as the pail system was carried out to the great benefit of the surrounding agriculture. These buckets were nasty but not particularly dangerous, and from a sanitary point of view infinitely preferable to cesspool or badly constructed sewers with untrapped house-drains. This system, however, was only practicable when each householder had his plot of land to cultivate in the outskirts of the town; and for hotels, &c., houses with cesspools were built. Subsequently sewers were laid, at least in the more fashionable portions of the town. These sewers were made to receive only the surface water together with the kitchen and washing water; but, in innumerable cases, the rules are defied and the sewers are polluted by overflows from the cesspools. This is all the more dangerous as the sewers are much larger than those used in England; while, on the other hand, they are rarely and, in many cases, never flushed, except by storm water. The accumulation of deposits is the natural result; and the local engineers have so little faith in a self-cleansing sewer, that they invariably insist on the channels being large enough to admit the passage of a man, so that they may be occasionally cleaned by hand. Though English sewers receive everything, they are ventilated with some care, constantly flushed, and are comparatively so small that the rush of water is really effective in cleansing them.

Putting aside the few isolated villas standing in the centre of gardens, which have been drained under English supervision, the great majority of the higher class houses in all the towns of the Riviera are exposed to a twofold danger. First of all there is the cesspool, which has, it is true, its ventilating shaft carried to the roof of the house; but the soil pipe, being within the house, has a higher temperature, and is therefore a more active ventilator of the cesspool. This pipe is generally of iron, at least eight inches in diameter, and can never be kept clean. There may be a valve under the closet pan, but there is no syphon trap, and no effective means of excluding the effluvium from the cesspool, which is generally situated under the inhabited portion of the house. Secondly, all the waste water pipes communicate directly with the sewers, and, being untrapped, supply about the only means of ventilation existing. Thus the houses are impregnated with the effluvium from the cesspools brought up by the soil pipes and by the sewer gas drawn up through the waste water pipes. Under such circumstances the high death-rate of every Riviera health resort need not surprise anyone. But when we consider that at any moment the specific germs of cholera may be distributed throughout this defective system of drainage, the prospect may well awaken the keenest alarm. If the practice of isolation in cases of infectious diseases had become customary, we might feel less anxiety; but the principles that govern us in such matters are ignored. The disinfection of dejections from typhoid patients is rarely if ever attempted, while thorough fumigation after infectious fevers is in no wise enforced. There was not a single public disinfecting stove along the whole Riviera till a few months ago, when Dr. Albenois constructed the model of a portable stove at Marseilles, which however up till last December had never been used, and was only shown as a curiosity. If, therefore, one or two cases of cholera are imported into any of the Riviera health resorts, the sewers may be contaminated, and then there will be no safety for the inhabitants of the houses that drain into these badly constructed channels. Yet an epidemic would be the ruin of such towns, for their prosperity depends almost exclusively on the presence of foreign, especially English, visitors. Perhaps this prospect may serve to arouse the inhabitants to a truer sense of their real interests. They may finally learn that for health resorts good sanitation is more important and profitable than the plantations of avenues of palms, the construction of new boulevards, or the erection of theatres, casinos, clubs, and other attractions which, though they may amuse, cannot in themselves impart health, cure disease, or ward off epidemics.

## LIVERPOOL.

*(From our own Correspondent.)*

### THE CHOLERA.

THE prevalence of cholera in France recalls vividly the epidemic of 1866, and it is instructive to notice the difference in our past and present sanitary laws. Had the local authorities possessed in 1866 the same powers as they have now, they would have been enabled, humanly speaking, to have arrested the disease at the onset and to have saved many lives. The spread of the infection was caused by a wake being held on the body of one of the first victims of the disease in a crowded court in one of the poorest streets, and there was no law to prevent the wake nor to remove the corpse. At the present time the local authorities on each side of the Mersey, as well as in the river itself, are furnished with ample powers to prevent the pestilence from being brought ashore; but should this be frustrated, it can be at once isolated and checked. These powers, which were conferred by the Public Health Act, have since proved to be of the greatest value.

### THE EPIDEMIC OF SMALL-POX.

Ample provision has been made for the accommodation of small-pox patients in temporary hospitals erected on the grounds near Parkfield House, which latter is for the resident staff. The site has been well chosen, and by a coincidence the epidemic began to subside as soon as the arrangements were completed. The epidemic has been useful in proving the necessity of a permanent hospital for infectious diseases, independently of that afforded by workhouses. Another lesson has been taught, which it is to be trusted will not be forgotten, and that is the importance of universal revaccination in adult life. Much might be done if all employers of large bodies of workmen insisted upon its performance before engaging any applicants. As it is, revaccination is seldom demanded except in times of epidemic, and then only by the better classes.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The annual meeting, under the presidency of Henry Rayner, M.D., will be held at the Royal College of Physicians, Pall Mall, on Wednesday, July 23rd, at 11 A.M. and 2 P.M.

## IRELAND.

*(From our own Correspondent.)*

### ROYAL COLLEGE OF SURGEONS IN IRELAND.

AN election for a lecturer on Surgery in the Medical School of the College will take place on the 24th inst., and two of the candidates, Messrs. Corley and Hamilton, have had to resign the Vice-Presidency and the membership of the Council respectively, in order to qualify for the appointment. The President, in consequence of a requisition, has named the 21st inst. as the day to fill up these vacancies; and the candidates for Council consist of Messrs. Meldon, Nixon, and Story. For the Vice-Presidency there are two candidates, Dr. Cameron, medical officer of health for Dublin, and one of the professors of the School of Surgery; and Mr. Ormsby, surgeon to the Meath Hospital.

### ROYAL UNIVERSITY OF IRELAND.

At a recent meeting of the Senate the following arrangements for 1885 were adopted. There are to be two matriculation examinations in each year, conducted at local centres, one in June for pass candidates only, and the second in October; the First University Examination is to be held twice yearly, while the examinations for A.B. and A.M., and the Second University Examination in Arts, and for the University studentships will take place in September. The medical examinations of the University are to be held twice in each year—viz., towards the end of April and in the month of October. Candidates failing to pass at either of these will be allowed to present themselves again at the succeeding examinations. There will be a Honours Examination in connexion with each of these medical examinations; and one first class exhibition and one second class exhibition out of the number already assigned to the several medical examinations respectively may be awarded at the one held in April, while the residue of such exhibitions may be awarded at the October examinations. At a meeting of the Senate held on the 7th inst., Dr. John F. Hodges was elected an examiner in Sanitary Science.

### DISPENSARY MEDICAL OFFICERS IN IRELAND AND THE COMMISSION OF THE PEACE.

In consequence of a recent statement that the medical officers of dispensary districts in Ireland are ineligible to hold Her Majesty's Commission of the Peace in Ireland, considerable dissatisfaction has arisen, and a memorial has been framed for presentation to His Excellency Earl Spencer drawing attention to the matter.

### PRECAUTIONS AGAINST CHOLERA.

Great precautions are being adopted in the Health Department of the Corporation of Dublin by Dr. Cameron, the energetic medical officer of health for that city, so as to be prepared in case the cholera should visit these shores. The inspectorial staff has been doubled, and faulty privies are being attacked vigorously. One hundred and forty-four waterclosets were put up last month in the tenement houses in place of the middens previously existing. These privies in connexion with tenement houses in Dublin have done much to pollute the soil and air of the city, and the substitution of waterclosets must be regarded as a very satisfactory arrangement.

The amalgamation scheme of uniting the private Medical Schools with that of the College of Surgeons was defeated at the Council by eight votes against six. The motion has been remodelled, and has been referred to the Education Committee to report on the feasibility of amalgamation.

The President of the Royal College of Surgeons in Ireland has left for London, to have an interview with Mr. Mundella in reference to the Medical Acts Amendment Bill.

Dublin, July 15th.

## ROYAL COLLEGE OF PHYSICIANS.

AT the adjourned Comitia, held on Thursday last, the only important business transacted was the appointment of a Committee to draw up a list of recommendations to be submitted to the Local Government Board, and to be issued to the public for their guidance in the event of the appearance of Asiatic cholera in England.

## MEDICAL NOTES IN PARLIAMENT.

### *The State of the Thames.*

IN the House of Commons, on Friday, Sir W. Harcourt, replying to Dr. Cameron, said there was no doubt the river was in a very serious state in consequence of the sewage which was being poured into it. He had communicated with the Royal Commission which was now sitting, and also with the Metropolitan Board, and in his opinion immediate and urgent measures ought to be taken.

On Monday, in answer to Sir A. Lusk, Sir C. Dilke stated that all the sewage at the main outfall was now deodorised by the Metropolitan Board, but there were many sewers discharging into the upper part of the river without any purification. A scheme for dealing with this had been proposed by a joint sewerage board, but it was understood that the committee who were considering the Bill were going to throw it out. If so, they accepted a grave responsibility, and most serious difficulties would result. He was inquiring as to the effect upon the river of the abstraction of water by the water companies.

### *Vaccination Inspection.*

In reply to Mr. Hopwood, Mr. Mundella read a letter he had received from Dr. Buchanan, stating that in only one instance had he ever met with any objection to his examining the arms of children in public and private elementary schools. His custom was to give a list of the unvaccinated children to the master of the school, and to ask him to call the attention of the parents to the fact that they were not protected against small-pox.

### *Cholera Hospitals.*

Mr. Trevelyan stated to Colonel Nolan, on Tuesday, that there was no authority in Ireland which possessed a portable hospital that might be put at the disposal of any union where cholera broke out. The sanitary authorities at Dublin, Queenstown, and Londonderry had floating or other intercepting hospitals.

On Thursday, in reply to a further question, the right hon. gentleman stated that in the event of cholera reaching this country it would be the duty of local sanitary authorities to provide hospitals.

### *Cholera in India.*

Mr. Cross, in reply to Dr. Cameron, agreed to present a copy of the correspondence between the Government of India and the Sanitary Commissioner of Madras as to the report of the latter, in which a cause was assigned for an outbreak of cholera. The Government view was that the sanitary officers should refrain from stating theories as to the propagation of cholera. In answer to Mr. O'Donnell, the hon. gentleman said the scarcity of salt had nothing to do with the cholera in India. The condition of the finances made any reduction of the salt tax improbable.

### *School Pressure.*

Mr. Mundella informed Mr. T. Leighton that Dr. Borham's letter as to cases of alleged death from school pressure had been referred to the London School Board, who were investigating the cases.

### *The River Lea.*

Sir W. Harcourt stated to Mr. Picton that he had communicated with the Lea Conservancy as to the sewage pollution of the river, and had formally certified that it was polluted, but he had no power to do more.

### *The Case of Mr. French.*

Mr. Trevelyan, replying to Mr. Healy, said it was true that Mr. French was recently reported by three doctors to be suffering from mental disease, but that was with reference to his employment in the police. Insanity was no bar to arrest.

### *The Medical Act Amendment Bill.*

On Tuesday, Mr. Gray asked the First Lord of the Treasury whether, considering that notice had been given of a large number of amendments to the Medical Act Amendment Bill, upon which there was likely to be prolonged discussion, it was intended to proceed with the measure this session; and if so, whether he could state upon what day it would be taken so as to avoid the inconvenience occasioned to opponents of the Bill by its

being placed upon the notice paper day after day.—Mr. Gladstone said that it would be the second order on Monday.—Meanwhile many petitions, mostly in favour of the measure, with amendments, continue to be presented.

*Notices.*

Mr. Hopwood would on Monday question the Secretary to the Admiralty about an alleged error in the statistics relative to the Contagious Diseases Acts. Sir Trevor Lawrence would ask the Secretary for War whether the regulations for the embodiment of a volunteer hospital corps would be promulgated.

# Obituary.

## GEORGE ALFRED WALKER, M.R.C.S., L.S.A.

THE death of this gentleman, which, as previously announced, occurred on the 6th inst., at his residence, Ynysfaig House, near Barmouth, serves to sever another link of the chain which binds the medical profession of to-day to that of the early part of this century. Mr. Walker was in his seventy-eighth year, and formerly practised with success in London; he was a staunch supporter of the warm vapour cure, upon which subject he wrote a pamphlet. He, however, was a firm believer that prevention is better than cure, and distinguished himself greatly by the energetic way in which he exposed the sanitary dangers arising from intramural interments in churches and chapels in the metropolis and throughout the country. He was popularly called "Graveyard Walker." In 1840 Mr. Walker was one of the principal witnesses before the Select Committee of the House of Commons on the Health of Towns. He was the author of several works upon this important question, and just before he died was writing another book, a summary of his previous works. He wrote several treatises upon surgical subjects, and for these works he was offered the Fellowship of the College of Surgeons, which he did not accept, as he had retired from practice for many years. He was also a geologist, and was instrumental in opening two quarries, Henddol and Golenwern, which are well known in the district.

# Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND — The following gentlemen passed the Primary Examination in Anatomy and Physiology at meetings of the Board of Examiners on the 10th, 11th, and 14th inst. :—

Edward L. C. Smith, William H. Duce, William E. Redman, John P. Millington, Richard W. Young, R. H. F. Routh, N. A. Butterfield, T. J. Hall, and P. J. Clark, University College; Henry S. Smith, and Joe Iredale, St. Bartholomew's Hospital; Alexander J. Adie, Thomas Austen, John G. D. Cort, Warburton V. Carden, John Dallowy, and G. P. Barton, Charing-cross Hospital; Brown Clark, Evan J. Williams, and Reginald J. Braye, London Hospital; Edward H. C. Sullivan, Alfred E. Cox, Richard E. E. South, and W. J. Harris, St. Thomas's Hospital; Henry A. Haviland, Cambridge and St. Bartholomew's Hospital; Henry Craig and G. S. Shute, Guy's Hospital; R. W. Cameron, Manchester; E. C. Anderson, St. Mary's Hospital; F. R. Mallard and T. A. Mast, St. George's Hospital.

Of the 234 candidates examined during the past fortnight, 100 failed to satisfy the Board, and were referred for three, and 21 candidates for six months' further anatatomical and physiological study.

COLLEGE OF PHYSICIANS IN IRELAND.—At the July examinations the following candidates obtained the licences in Medicine and Midwifery of the College :—

MEDICINE.—George Stamer Browning, Alexander Edward Carte, James Vance Collins, George Patrick Cope, William Henry Clarke, Thomas Joseph Daly, Vernon Kitchen Dearden, Thomas Francis Griffin, Hudson Hairsine, Richard A. Hayes, Thomas Francis Higgins, John Colclough Hoey, Denis Kennedy, Frederick Duncan Lawson, Patrick W. Maxwell, William Cox Neville, Michael Alcock Ottley, Robert Chambers Owen, James Robinson Phillips, William Henry Banner Robinson, Agnes Russell, John Richard Rygate, Francis William Sullivan, John Williams.

MIDWIFERY.—George Stamer Browning, Alexander Edward Carte, William Henry Clarke, James Vance Collins, Thomas Joseph Daly, Vernon Kitchen Dearden, Thomas Francis Griffin, Thomas F. Higgins, Denis Kennedy, Frederick Duncan Lawson, John Joseph Lyons, Thomas Joseph McGrath, William Cox Neville, Michael Ottley, Robert Chambers Owen, William Henry Robinson, Agnes Russell, John Richard Rygate, J. Shackleton, Francis William Sullivan, John Williams.

The under-mentioned has been admitted a Member :—
Lambert Hepenstal Ormsby.

The diploma in Sanitary Science has been obtained by
Thomas Robert Judson.

APOTHECARIES' HALL. — The following gentlemen passed the examination in the Science and Practice of Medicine, and received certificates to practise, on July 10th :—
Marriott, Hyde, Dial House, Stockport.
Samut, Carmel, Floriana, Malta.

AT a meeting of the local authority of the parish of Dundonald, held at Troon on the 5th inst., it was resolved to form a special drainage district.

UNIVERSITY COLLEGE.—Former students of University College will be glad to learn that Sir William Jenner has promised to preside at the annual dinner of the old and present students, which is to be given at the Freemasons' Tavern on Saturday, October 4th.

EAST LONDON HOSPITAL FOR CHILDREN.—Mr. Meriscord has received a letter from the secretary of the above-named hospital, acknowledging the receipt of £60 in all as the proceeds of the matinée at the Avenue Theatre on the 26th ult.

ST. JOHN AMBULANCE ASSOCIATION.—On Monday next, Mr. John Furley will read a paper on the "Carriage and Removal of the Sick and Injured" at the International Health Exhibition, the chair to be occupied by Sir James Paget. On the following Friday, a meeting will be held at the United Service Institution for the discussion of matters connected with the instruction of pupils in the work of the Association.

THE HOSPITAL OF ST. CROSS, RUGBY.—This hospital, presented to the town of Rugby by Mr. and Mrs. R. H. Wood, was opened on the 17th inst., and supersedes the cottage hospital founded in 1869 under the medical superintendence of Dr. Clement Dukes. The new building is constructed on the block system, and, together with the nucleus of an endowment fund, constitutes a gift by the munificent donors of the value of some £25,000.

SEAMEN'S HOSPITAL, GREENWICH.—At the quarterly general Court of Governors, held on the 16th inst., it was reported that 396 seamen had been admitted as in-patients during the past quarter from British and foreign ships. The drainage of the hospital having been condemned by the engineer consulted, a sum of £7370 is required to put it in an efficient state. In addition, it is proposed to erect an entirely new chapel at an estimated cost of £1281.

PRIZE ESSAY OF THE BRITON LIFE ASSOCIATION. At the general meeting of the members of the Briton Life Association, held on Thursday, July 17th, the award of the adjudicators of the fifty guinea prize offered by the directors for the best essay on "Life Assurance" was declared to have fallen on P. J. Thomson, Esq., M.R.C.S. and L.R.C.P., 14, Rue d'Egmont, Brussels. We congratulate the successful competitor. The adjudicators were Dr. Richardson, F.R.S., Mr. Savory, F.R.S., and Mr. Messent, F.I.A. Thirty-four essays were sent in for the prize.

THE PARKES MUSEUM.—At the annual meeting held on July 9th, a report was read showing the work that had been carried out during the past year, from which it appears that twenty-one lectures have been delivered. The Museum has been largely used by lecturers on Public Health, and by other skilled teachers for practical demonstrations to various classes of students, &c., who for this purpose have been admitted without entrance fee. The members, who numbered 99 on June 30th, 1883, just after the opening of the Museum, now number 260. During the year there have been 6870 visitors.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The second annual dinner of this Society was held on Tuesday, July 15th, at the Star and Garter Hotel, Richmond, under the chairmanship of Dr. J. L. Thudichum, President of the Society. Much amusement was afforded by the *menu*, which had been rendered into classical Latin by Dr. E. Hart Vinen, a feat of no ordinary difficulty. The after-dinner proceedings were enlivened by an excellent programme of vocal and instrumental music, given with much ability by the Misses Thudichum, Mr. Bere, and others. Thirty-five members and visitors sat down to dinner.

PROPOSED CONVALESCENT HOSPITAL.—At a meeting held on the 14th inst. at the Mansion House in support of a proposal for the establishment of a convalescent hospital and home of rest for the poor and wage-earning classes of London, it was suggested that 500 beds should be provided in three homes. The estimated cost of maintenance is about £12,000 per annum. The institution is intended for those who, having been under treatment in hospitals or elsewhere, need change of air with a continuance of medical or surgical aid, and for those who, suffering from illness or overwork, require change, good food, and rest; it will be partially self-supporting. A council was appointed to carry out the scheme.

SANITARY INSTITUTE OF GREAT BRITAIN.—At the anniversary meeting held at the Royal Institution, Albemarle-street, on July 10th, Earl Fortescue, Vice-President of the Institute, in the chair, an address was delivered by Dr. H. C. Bartlett, F.C.S., entitled "Some of the Present Aspects of Practical Sanitation"; and the medals and certificates were presented to the successful exhibitors at the Exhibition held at Glasgow in September, 1883. At the close of the address the chairman proposed a vote of thanks to Dr. Bartlett, which was seconded by R. B. Grantham, M.Inst.C.E.; and a vote of thanks to Earl Fortescue for presiding was moved by Dr. A Carpenter, and seconded by Prof. F. de Chaumont, M.D., F.R.S.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The usual quarterly Court of Directors of the Society was held on July 9th, Sir Henry Pitman, Vice-President, in the chair. It was resolved that a sum of £1257 be distributed among the fifty-nine widows, the five orphans, and the three recipients of grants from the Copeland Fund. The expenses of the quarter were £39 17*s*. The Treasurer announced the following donations: Sir Erasmus Wilson, Vice-President, 100 guineas; Cæsar H. Hawkins, Esq, Vice-President, £5 5*s*.; Dr. Bisset Hawkins, Vice-President, £10; and J. Gregory Forbes, Esq., Vice-President, £2 2*s*. Six new members were elected; the secretary reported the deaths of two. Applications were read for the first time from two widows, and grants were made to each. A discussion having occurred at the annual general meeting on the meaning of Law 66, and a wish expressed to have the law defined, the secretary read a letter from the honorary solicitor, Mr Upton, from which it appeared "that eligibility depends on the applicant being the widow or orphan of a person actually a member for three years immediately preceding his decease, and not on the payment of three subscriptions."

# Medical Appointments.

*Intimations for this column must be sent* DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

ATKINS, GEORGE PURCELL, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Government Medical Officer at Port Lincoln, South Australia.

BAKER, A. DE WINTER, L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Dawlish District, Newton Abbot Union, vice A. W. Parsons, deceased.

BASS, FREDERICK, L.R.C.P.Lond., M.R.C.S., has been appointed Assistant Aural Surgeon to the Newcastle-on-Tyne Dispensary, vice Chalmers, resigned.

BEATLEY, WILLIAM CRUMP, M.D.Durh., M.R.C.S., has been appointed Senior Assistant Medical Officer to the Somerset and Bath Lunatic Asylum, Wells.

BOULTER, WALTER ERNEST, L.R.C.P.Ed., M.R.C.S., has been appointed Medical Superintendent to the Woolwich Union Infirmary, vice Rice.

CARROLL, E. R. W., M.R.C.S., L.R.C.P.Lond., has been appointed House-Surgeon to the Royal Westminster Ophthalmic Hospital.

CHAMP, J. H., M.B.Lond., has been appointed House-Physician to Guy's Hospital.

CLARKSON, CHARLES HOWARD, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Resident Surgeon of the Hospital for Pacific Islanders in the Mackay District, Queensland.

CLEGG, W. T., M.R.C.S., L.R.C.P.Lond., has been appointed Registrar to the St. Paul's Eye and Ear Infirmary, Liverpool.

CUFF, R., M.B.Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Scarborough District, Scarborough Union.

DAVIES, W. T. F., M.B.Lond., has been appointed House-Surgeon to Guy's Hospital.

DONOVAN, DENIS DEMPSEY, L.R.C.P.Ed., L.R.C.S.Ed., L.A.H.Dub., has been appointed Medical Officer of Health for Cork, vice Cremen, resigned.

FORT, J. WILSON, L.D.S.R.C.S.Eng., has been appointed Honorary Dental Surgeon to the Lancaster Infirmary.

GRAY, C. EDWARD, M.D., Ch.M., has been appointed Government Medical Officer and Vaccinator for the District of Inverell, New South Wales.

HARDY, H. NELSON, F.R.C.S.Ed., M.R.C.S., has been appointed a Divisional Surgeon to the P Division of the Metropolitan Police for North Dulwich and East Dulwich Stations.

HEATON, C. W., F.C.S., has been reappointed Public Analyst for the Parish of St. Martin-in-the-Fields.

JOHNSON, SAMUEL E., L.R.C.S.Ed., L.S.A.Lond., has been appointed Medical Officer for the Moseley District of the King's Norton Union, vice Richard Farncombe, M.R.C.S., L.S.A.Lond., resigned

JONES, M. PARRY, M.B.Lond., has been appointed Resident Obstetric Physician to Guy's Hospital.

KNIGHTS, Mr. J. WEST, has been reappointed Public Analyst for the County of Huntingdon.

MANLEY, J. H. H., M.B., B.C.Cantab., has been appointed Resident Obstetric Physician to Guy's Hospital.

MEYER, C. H. L., M.B., B.S.Lond., has been appointed House-Surgeon to Guy's Hospital.

PHILLIPS, F. B. W., M.R.C.S., has been appointed Resident Obstetric Physician to Guy's Hospital.

POLLARD, W. R., M.R.C.P.E., L.R.C.S.I., has been reappointed Medical Officer of Health for the Rural Sanitary District, Blackburn, and the Urban Sanitary District, Church.

RYLE, R. J., M.B.Oxon., has been appointed House-Surgeon to Guy's Hospital.

SCOTT, T. HARRISON, M.B., B.S. Univ. Dub., has been appointed Assistant-Surgeon to the Adelaide Hospital, Dublin.

TARGETT, J. H., M.B.Lond., has been appointed House-Physician to Guy's Hospital.

WHITTON, JAMES, M.D., L.R.C.S.Ed., has been appointed Surgeon to Mount Ida Hospital, Naseby, New Zealand.

WORTHINGTON, S., M.B.Lond., has been appointed House-Physician to Guy's Hospital.

WRIGHT, HOLLAND H., L.R.C.P.Lond., M.R.C.S., has been appointed Registrar and Chloroformist to the Evelina Hospital for Sick Children, Southwark, vice R. A. Milligan, L.R.C.P., M.R.C.S., resigned.

# Births, Marriages, and Deaths.

## BIRTHS.

ADAM.—On the 5th inst., at Fernhead-road, St. Peter's-park, W., the wife of C. Donovan Adam, L.R.C.P.Lond., of a son.

BISDEE.—On the 12th April, at Trincomalie, Ceylon, the wife of Surgeon-Major N. Bisdee, Major Army Medical Department, of a daughter.

BROWN.—On the 8th inst., at Charterhouse, Godalming, the wife of Clarence Haig Brown, M.B., of a daughter.

DEANE-BUTCHER.—On the 16th inst., at Clydesdale Villa, Windsor, the wife of W. Deane-Butcher, M.R.C.S., of a son.

OWEN.—On the 8th inst., at Highfield House, Rushden, Northamptonshire, the wife of Charles R. Owen, L.R.C.P.E., M.R.C.S., &c., of a son.

WHITHAM.—On the 2nd inst., at Adlington, Lancashire, the wife of Alfred Whitham, L.R.C.P., L.R.C.S.E., of a daughter.

## MARRIAGES.

CUMMINS—HALL.—On the 9th inst., at St. Michael's Church, Blackrock, Cork, William Edward Ashley Cummins, M.D., eldest son of William Jackson Cummins, M.D., to Jane Constable, second daughter of Robert C. Hall, J.P.

ELLIOTT—HAYWARD.—On the 16th inst., at Seasalter Church, Whitstable, by the Rev. Wm. Blissard, M.A., Edgar Elliott, M.R.C.S., of Bromsgrove, to Annie, eldest daughter of J. W. Hayward, M.R.C.S., of Whitstable.

HARLAND—BAKER.—On the 3rd inst., at St. Pancras, London, by the Rev. Canon Spence, Henry Harland, M.D., of Calverley-place, Tunbridge Wells, to Emmeline, second daughter of the late Henry Baker, Esq., F.R.I.B.A., and granddaughter of the late Sir Robert Baker, of Montague-place, London.

JOHNSON—SCHREIBER.—On the 9th inst., at the Congregational Church, Stamford hill, Geo. Lindsay Johnson, M.B., C.B.Cantab., of Upper Norwood, to Emily Maria Schreiber, adopted daughter of the late Rev. M. and Mrs. Sames, of Salisbury.

LUCAS—SMITH.—On the 8th inst., at St. Mark's Church, Hamilton-terrace, N.W., Robert Harry Lucas, M.R.C.S., of Bury St. Edmunds, to Helen Maude, youngest daughter of the late Ambrose Smith, of Blackheath.

## DEATHS.

BALFOUR.—On the 15th ult., at Bombay, suddenly, of apoplexy, William Green Balfour, M.R.C.S., L.R.C.P., late of Alton, Hants.

KEELAN.—On the 17th ult., at Roseau, Dominica, West Indies, Nicholas Walter Keelan, L.R.C.P.E., L.R.C.S.I., Government Medical Officer of Roseau, aged 42.

MOORE MILLER.—On the 9th inst., at Southsea, after a short illness, John William Moore-Miller, M.D., M.R.C.P., M.R.C.S., J.P., only son of the late Captain Miller, 46th and 24th Regiments, aged 64.

PARKER.—On the 13th inst., at Pulteney-street, Bath, William Parker, M.D., for many years Medical Officer of Health for Bermondsey, and only surviving son of the late William John Brown Parker, Surgeon, of H.M. 14th Regiment, in his 72nd year.

STAUNTON.—On the 12th inst., at his residence, Waterloo-road, Dublin, Charles Frederick Staunton, M.D., R.A., one of the last surviving officers of the Euphrates Expedition, aged 83.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Stewart's Instruments.)*

THE LANCET OFFICE, July 17th, 1884.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind | Dry Bulb. | Wet Bulb. | Solar Radia in Vacuo. | Max. Temp. Shade. | Min. Temp | Rain fall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| July 11 | 29·75 | W. | 64 | 57 | 120 | 73 | 54 | ·49 | Cloudy |
| ,, 12 | 29·84 | W. | 66 | 60 | 118 | 80 | 58 | ·10 | Cloudy |
| ,, 13 | 29·80 | W. | 74 | 67 | 119 | 83 | 60 | ·14 | Cloudy |
| ,, 14 | 29·99 | S.W. | 64 | 60 | 121 | 75 | 56 | .. | Cloudy |
| ,, 15 | 29·94 | S.W. | 66 | 61 | 112 | 73 | 58 | .. | Raining |
| ,, 16 | 29·67 | S.W. | 65 | 63 | 112 | 72 | 62 | ·14 | Raining |
| ,, 17 | 29·76 | W. | 64 | 59 | 105 | 69 | 55 | .. | Cloudy |

# Notes, Short Comments, and Answers to Correspondents.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*All communications relating to the editorial business of the journal must be addressed "To the Editor."*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe, or recommend practitioners.*

*Local papers containing reports or news-paragraphs should be marked.*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *to be addressed "To the Publisher."*

### PROVIDENT DISPENSARIES.

IT is gratifying to know that the Coventry Provident Dispensary continues to prosper. The report of medical work is too general to enable us to say how adequately the medical men were paid, but we learn that they received the following sums respectively: Mr. McVeagh, £334 10*s.* 2*d.*; Dr. Fenton, £331 8*s.* 11*d.*; Dr. Davidson, £326 18*s.* 9*d.*; Mr. Pickup, M.B., £518 9*s.* 9*d.*—The report of the Victoria Dock District Provident Dispensary is well drawn up. The impression conveyed is that a good deal of work is obtained from the medical officer and his assistant, and that they get too little for it. They attend the *employés* of many and wealthy firms. They have a total admission of 7455 persons, they pay 5840 visits, and receive respectively £258 1*s.* 6*d.* and £117 10*s.* Such remuneration is not worthy either of the firms or their *employés*. Of the £1260 received for medical purposes only £375 reach the medical men.

*A.M.D.*—Lyon Médical, vol. 1., 1884.

### A TEST FOR ABNORMAL TEMPERATURE OF THE BODY.

*To the Editor of* THE LANCET.

SIR,—I have recently observed that the organic base triethylamine varies as remarkably according to temperature as to its solubility in water. I must refer those of your readers who are interested in the purely physical aspect of the matter to the July number of the *Philosophical Magazine*. As, however, the property referred to may be of use in the diagnosis of fever, I am bound to make it as widely known as possible. Solutions of triethylamine in water are made of various strengths of from 5 to 12 per cent. of the alkali by weight. These are enclosed in glass bulbs hermetically sealed. All of these bulbs become turbid on being heated, but those containing most alkali require heating least. The turbidity consists in the separation of two liquids—one a solution of water in triethylamine, and the other a solution of triethylamine in water. The 10 per cent. solution becomes turbid at 72° F., the 8 per cent. at 76°; the 4 per cent. requires a temperature of about 207·6°. This range of temperature includes the limits of the possible range of temperature of the human body. In a series of bulbs so constructed, I find, for instance, that No. 6 becomes turbid at 91·4°, while No. 7 requires 98·6°, No. 8 requires 105·2°, and so on. Hence we have a form of heat or fever indicator which may be of use. The remarkable circumstance is that mixture is here undone by accession of heat, and that the minutest change of temperature gives a large separation.

I am, Sir, your obedient servant,

FRED. GUTHRIE.

Science Schools, South Kensington, July 9th, 1884.

### SUCCESSFUL VACCINATION WITH FOURTEEN-YEAR-OLD LYMPH.

DR. GOSSET-BROWN sends us the following particulars:—In the year 1870 Mr. Harvey Gosset-Brown, then a student of the London Hospital, vaccinated E. S——. When taking lymph on the eighth day he presented the mother with a well-charged tube, which she carefully preserved. Anxious about her family during the present outbreak of small-pox, Mrs. S—— asked Dr. Newbury Gosset-Brown to revaccinate her husband and three sons. With a view to test the efficacy of the lymph taken in 1870 Dr. N. Gosset-Brown vaccinated the youngest boy, aged nine years, with it. The father and two other sons were vaccinated with calf lymph. In all the effect was satisfactory, and certainly not less so in the youngest boy, upon whom, as before stated, lymph taken fourteen years ago was used.

*Incognito.*—The questions are very vague; but so far as we understand them, we should be inclined to reply in the negative to both.

### THE THAMES AS AN OPEN SEWER.

*To the Editor of* THE LANCET.

SIR,—The state of the Thames at present is very unsatisfactory; and with the prospect of a considerable period of warm weather presenting itself as not unlikely, it is quite time that some remedy should be attempted. I have been informed that benefit resulted formerly by emptying barge-loads of chloride of lime into the stream; and with some such immediate remedy should be combined the addition to the sewage poured in daily of some chemicals to arrest decomposition. For some weeks past the sewage smell has been steadily increasing, apparently from the hot weather promoting decomposition of the organic matter deposited in the river bed from the sewage as it is carried up and down the river by the tide. For a distance of some miles above East Greenwich and below Crossness sewage outfall, the part with which I am personally acquainted, the water is of a dark opaque grey, and when stirred up by the river steamers gives out a well-marked sewage smell, strong enough to nauseate some persons.

It is not clear that such a state of affairs has any injurious effect on those spending much time on the river, by producing severe diarrhœa or any other form of illness; but it is the duty of every believer in the importance of sanitary reform to try to get rid of "matter in the wrong place," and certainly we have it in the present case. It is to be hoped that the greatest and wealthiest city in the world will not long permit a vast open sewer to run through it, polluting the air and exciting disgust both to sight and smell.

I am, Sir, your obedient servant,

Rotherhithe, S.E. J. A. PHILIP, M.D.

*A Young Practitioner.*—Excluding grounds of humanity, a medical man is not bound to attend every case to which he is summoned, even where a fee is tendered. To the case described in our correspondent's third question our answer will equally apply; though it might be a serious matter to assume neglect, and refuse on that ground to see a case of advanced disease.

*Mr. Lazton.*—We know nothing of the work.

### "SHOULD ENTERIC FEVER CASES BE ISOLATED?"

*To the Editor of* THE LANCET.

SIR,—To the above question I answer, Yes. Following the Egyptian campaign (and, indeed, continuing to a less extent up to date) a very large number of cases of this disease occurred among the troops who formed part of the expedition. Many such cases were admitted to the Citadel Hospital at Cairo, and experience soon proved that there was risk to nurses and attendants employed in the hospital, as well as to patients under treatment for other diseases. It then became the rule to treat all cases of enteric fever in separate wards, and this facilitated nursing and enabled the hospital authorities to allot old and seasoned attendants for the management of those cases. We can, I think, easily understand the cause of the danger. We know that patients ill from enteric fever frequently soil their beds and clothing with dejecta from the bowels; and certainly the attendants who have to remove these articles, and even patients in neighbouring beds, must incur some risk from the exhalations from them. I think it is now generally conceded that the poison of enteric fever, or whatever it may be called, can reach the system through the air as well as through fluids &c. swallowed.

I am, Sir, yours truly,

T. F. O'DWYER, M.D.,
Surgeon-Major, Army Medical Department.

Junior United Service Club, July, 1884.

*W. A. McNaughten, M.D.*—We think our correspondent could have no claim after the lapse of so long a time.

### "BOILED LETTUCES."

*To the Editor of* THE LANCET.

SIR,—It is not plain to many of your readers why spinach should be excluded from the diet of oxaluric patients. I have even ordered sorrel with advantage. Nor is it obvious to me why stewed rhubarb is wrong. The oxalates in these vegetables are soon either voided or decomposed after being taken, and many of the crystals found in them are too large to be absorbed.

I am, Sir, yours truly,

Orchard-street, W., July 15th, 1884. WILLIAM SQUIRE, M.D.

### ADVERTISING SHEETS.

OUR attention has been called to an advertising sheet which professes to be sent to every member of the medical profession in the United Kingdom. Our correspondent remarks: "I should like to express in your columns my regret at the issue of such a paper. I regard it as very degrading and mischievous to the profession. It would seem that the tendency is now greatly in the direction of making our calling a 'business,' and, as such, to be promoted by advertisement in every form. This modern and American introduction must be firmly resisted if we are to retain the little respect still left to us as a profession in this country."

*Mr. McKoll.*—Yes; micro-organisms have been discovered in connexion with syphilis and many other affections of a contagious nature.

*Mr. Joseph Balfour.*—The figures quoted are unintelligible.

*Mr. Walsham.*—The paper has not been overlooked.

## ACTION OF BORACIC ACID ON THE URINE.

*To the Editor of* THE LANCET.

SIR,—Having seen in a medical journal an extract from a communication of some cases which Professor Rosenthal had made to *Allg. Wien. Med. Wochensch.*, Jan. 15th, and in which he had employed boracic acid internally, with a view of checking the formation of ammoniacal urine, I determined to try it when an opportunity arose. The patient on whom I first tried it was suffering from a bad stricture of the urethra, perineal abscess, &c., and on whom perineal section had been performed two or three years ago. His urine on admission was strongly ammoniacal, with flakes of mucus in it. Boracic acid was administered in ten-grain doses every three hours a few days after admission. In about twenty-four hours the urine changed in reaction, and when passing through the fistula recently formed did not scald him nearly so much. Although the boracic acid was continued for a fortnight, no harm resulted from its continuous administration. The urine passed was kept in a vessel for several days without its undergoing decomposition; it also kept its acid reaction. I may add that previous to the administration of the boracic acid the perineal abscess was opened, and the stricture dilated. The man would not submit to any operation for the permanent cure of the stricture.

The other patient is an old woman, who had suffered from cystitis of doubtful origin (no stone) for seven months previous to her admission in this hospital under the care of Dr. Vintras. Urine was passed every quarter of an hour day and night when she came in. There was much irritation of the labia and inner aspect of the thighs and much scalding on micturition. After trying several remedies with slight success, and the urine (being distinctly alkaline and fetid, the boracic acid in ten-grain doses twice a day was ordered. As in the previous cases, the reaction of the urine changed after the first day of taking the mixture, and has continued acid since. The symptoms, too, have been much relieved. In the night now she passes urine six times instead of thirty or even forty times, which she did before. The inflammation between the labia has disappeared, as well as the itching and scalding.

Through the courtesy of Mr. MacKellar and Dr. Vintras, who kindly allowed me to order boracic acid internally in their respective patients above-mentioned, I am allowed to send you these lines, written in the belief that this property of boracic acid is a remarkable and very important one in practice.—I am, Sir, your obedient servant,

GEORGE VICTOR PEREZ, M.B.Lond.
Res. Med. Officer.

Hôpital et Dispensaire Française, London, July 12th, 1884.

*H.*—1. In most of the States the holder of a respectable qualification is allowed to practise.—2. In Australia and New Zealand registration is required for the recovery of fees, and may be effected on proof of the possession of a British degree or diploma.—3. For an answer to this question we must refer our correspondent to letters which have appeared now and again in our columns.

## NECROSIS OF THE MASTOID PROCESS FROM SUPPURATION OF THE EAR FOLLOWING SCARLET FEVER.

*To the Editor of* THE LANCET.

SIR,—On July 5th, A. B——, aged four, was brought to me on account of the parents having observed that a very offensive discharge was issuing from behind the ear. The child had had scarlet fever rather severely in January, and early in the following month the discharge from the ear commenced, which had continued ever since, being copious and during the last two months offensive; but she had at no time complained of much pain in the ear, nor seemed to suffer much in any way. On examination I found a small opening behind the left ear, with a point of bone protruding, which, it was easily ascertained with a probe, was part of a considerable portion of the mastoid process, and seemed to be quite loose. I enlarged the wound and removed a piece of bone measuring an inch in length and half an inch at the widest part. The discharge from the wound and from the external meatus was free and offensive, but the hearing was very little impaired, nor did the child appear to have suffered much in health. I saw her again four days afterwards, when the wound had nearly healed, and the discharge, which was no longer offensive, had almost ceased.

I have reported this case, thinking it must be an unusual occurrence for the ear to sustain such serious injury and yet recover with so little impairment of function.—I am, Sir, yours obediently,

Congleton, July, 1884. R. M. DAVIDSON.

### SANITATION IN CLERKENWELL.

WITH reference to the strictures recently passed in the House of Commons upon the Clerkenwell Vestry by Sir Charles Dilke, and which we reported in our issue of the 12th inst., we have received a letter from Mr. Robert Paget, vestry clerk, containing an emphatic denial of the charges made by the President of the Local Government Board against the sanitary committee. The committee trust that the imputation that the sanitary condition of Clerkenwell is "not only a disgrace, but a danger to the town, and that the vestry is not fit to be trusted with such a position," may be removed as altogether opposed to facts.

*M.R.C.S.E., L.M., & L.S.A.*—We cannot undertake to say whom the Association should exclude. But the gentleman who certainly does such things as our correspondent describes is not worthy of medical society.

## THE PINK FUND.

*To the Editor of* THE LANCET.

SIR,—Will you kindly publish the subjoined list of gentlemen who have forwarded moneys to me in aid of this aged ex-Poor-law medical officer; and would you permit me to add that, having learned that his friends have raised a sufficiency to keep him from want, it will not be necessary to try the generosity of the profession for any further assistance.

I am, Sir, yours obediently,

33, Soho-square, July 16th, 1884. JOSEPH ROGERS.

Lennox Browne, Esq., Weymouth-street, W., £1 1s.; Dr. Matthews Duncan, Brook-street, W., £2 2s.; S. H. S., £1 1s.; W. Morrant Baker, Esq., Wimpole-street, £2 2s.: J. Smart, Esq., Stamford-hill, N., £1 1s.; Henry Kennedy, Esq., M.B. (Dublin), 5s.; Arthur Evershed, Esq., Hampstead, N.W., £1 1s.; Sir Erasmus Wilson, Bt. (Westgate-on-Sea), £5; E. B., £1 1s.; R. B. Ruddock, Esq. (Clifton), £1 1s.; R. Mayman, Esq. (Oxford), £1; James Crocker, Esq. (Bingley), 5s.; W. L. Hunter, Esq. (Pudsey), 10s.; W. W. Morgan, Esq. (Newport), 10s.; W. J. Mackie, Esq. (Bedford), £1 1s.; J. Bridger, Esq. (Cottenham), 5s.; H. de V. Balbirnie, Esq. (Sheffield), £1; J. L. Jardine, Esq. (Dorking), 5s.; R. P. Simpson, Esq. (Weymouth), 10s.

*Dr. W. O'Keefe.*—The question is a legal one. We suspect the legal view might be adverse to our correspondent, but cannot speak with confidence.

*J. D. B.* should apply to the sanitary authority of his district.

## "MIDWIFERY."

*To the Editor of* THE LANCET.

SIR,—I find from my midwifery case book that Sunday has not been a favourite day for my patients to bring forth. I have taken four years of a country practice in Cambridgeshire, and I find that from 1879 to 1882 the births have been as follows:—1879: Sunday, 10; Monday, 7; Tuesday, 19; Wednesday, 16; Thursday, 23; Friday, 17; Saturday, 22. 1880: Sunday, 17; Monday, 11; Tuesday, 16; Wednesday, 22; Thursday, 16; Friday, 20; Saturday, 25. 1881: Sunday, 25; Monday, 16; Tuesday, 17; Wednesday, 17; Thursday, 31; Friday, 13; Saturday, 19. 1882: Sunday, 10; Monday, 20; Tuesday, 18; Wednesday, 20; Thursday, 25; Friday, 13; Saturday, 21.

In three out of the four years it will be seen that Thursday was the favourite day. In going over the above figures I have been struck with this fact—that whenever I have had three cases in one day it has been a Sunday.

I am, Sir, yours truly,

Bolingbroke-grove, S.W., July, 1884. W. EASBY, M.D.

*House-Surgeon.*—In the absence of any agreement or custom to the contrary, we think the proposal is reasonable.

*M.R.C.S.* should bring the advertisement under the notice of the colleges from which the advertising practitioner derives his diplomas.

*A Twenty-five Years' Subscriber* may apply to Mr. Nock, Bloomsbury-street.

## ERGOT AND QUININE IN MIDWIFERY.

*To the Editor of* THE LANCET.

SIR,—There being a divided opinion as to the value of ergot in midwifery, I would suggest the use of quinine as its substitute. I have always been pleased with its effect. It is not a toxic drug, and it is our best preventive of pelvic septicæmia.—Yours faithfully,

Newhaven, July, 1884. FRED. DALTON, L.R.C.P.Lond., M.R.C.S.

*Associate of King's College.*—The nurse cannot be punished. Our correspondent can claim his fee from the patient's husband.

*Observer's* views were set forth in a letter which we published last week.

## THE CAMBRIDGE SANITARY CERTIFICATE.

*To the Editor of* THE LANCET.

SIR,—I should like to suggest to the authorities at Cambridge the issue of a syllabus for the above examination, after the pattern of those published by the Science and Art Department (subject "Hygiene"). The present regulations convey a most indefinite notion of what is wanted.

I am, Sir, yours truly,

July 16th, 1884. CANDIDATE.

ERRATA.—In our Paris letter last week Dr. Rochard is represented as saying that the number of "cases" of cholera had been extraordinarily great. The context will show that the word quoted was a misprint for *cures*. The name "Lionville" should have been *Lionville*.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. W. M. Andersen, London; Dr. Squire, London; Mr. Howson, Snenton; Dr. Easby, London; Mr. F. E. Cane, Leeds; Dr. Clement Dukes, Rugby; Mr. H. C. Male, Leith; Mr. Orchard, Kingussie; Dr. W. Oldright, Toronto; Dr. Heron, London; Dr. Dyce Duckworth, London; Dr. Gosset Brown; Mr. G. V. Percy, London; Mr. MacKoll; Mr. Davidson, Congleton; Messrs. Mayer and Meltzer, London; Mr. J. Furley; Dr. De Renzy, Bray; Mr. E. F. Neve, Edinburgh; Dr. Whitson, Glasgow; Dr. Robertson, Kimberley; Dr. Macdougall, Carlisle; Dr. Ward Cousins, Southsea; Mr. Ormsby, Dublin; Mr. T. S. Ellis, Gloucester; Dr. Lloyd, Barmouth; Dr. Hunter Mackenzie, Edinburgh; Mr. Woodman, London; Dr. Cartwright Reed, Basutoland; Mr. Groshols, Towyn; Mr. Dalton, Newhaven; Mr. Joye, Dartmouth; Mr. Field; Mr. Willis, London; Mr. Pearse, London; Dr. C. F. Knight, Dublin; Mr. Walsham, London; Mr. Blackett, London; Mr. P. H. Kidd, West Hartlepool; Dr. O'Keefe, Bury St. Edmunds; Mr. Watson Cheyne, London; Mr. E. A. Campbell, London; Mr. Romary, Tunbridge Wells; Dr. J. A. Philip, London; Mr. Bourne, London; Dr. O'Dwyer, London; Dr. C. S. Taylor, London; Dr. Hicks, Hendon; Messrs. Goddard and Massey, Nottingham; Messrs. Robertson and Scott, Edinburgh; Mr. Fenwick, Dunsford; Mr. Bully, London; Dr. Ashdown, Tetbury; Mr. McDonald, Hadfield; Mr. McLee, Leatherhead; Mr. Lamb, Brighton; Mr. Dowse, London; Mr. Cowland, Lancaster Infirmary; Messrs. Turnbull and Wood, Newcastle; Messrs. Lumley and Co., London; Mr. Pollard, Edinburgh; Messrs. Brown and Sons, Hull; Dr. Ashdown, Berlin; Mr. Armstrong, Manchester; Messrs. Wright and Co., Birmingham; Mr. Shirtliff, Kingston-on-Thames; Mr. Ingle, London; Mr. Anderson; Mr. Toogood; Mr. Motherwell, Glasgow; Mr. Gordon Holmes, London; Dr. Seaman, London; Beta, Finsbury; H. H., Bury; H.; Omega, Birmingham; W. K., Manchester; Surgeon, Cambridge; Marcus; W. W. P., Plymouth; A.M.D.; House-Surgeon; Incognito; W. W. W.; Candidate; M.R.C.S.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Stott, Adlington; Mr. Elliott, Whitstable; Mrs. Theobald, Leicester; Mr. Stock, Bristol; Mrs. Lloyd, Jersey; Mr. Whittle, Edinburgh; Dr. Tate, Nottingham; Mr. Allen, Liverpool; Dr. Clark, Tunbridge Wells; Mrs. Hartley, Worcester; Dr. Moriarty, Cork; Mr. Hart, Corby; Mr. Mercier, London; Mr. Rowley, Barnsley; Mr. Jones, Dowlais; Mr. Law, Sheffield; Mr. Horder, Cardiff; Mr. Blore, Leeds; Dr. Brown, Brynmawr; Mr. Kinder, Leicester; Mr. Bigg, London; Mr. Townley, Tarporley; Mr. Bush, Beverley; Mr. Watson, Scarboro'; Mr. Leggatt, Sandwich; Messrs. Brown and Sons, Hull; Mr. Witham, Adlington; Miss Hunter; Mr. Guttoridge; Mr. Nash, London; Mr. Whitley, Halifax; Mr. Nason, Bampton; Mr. Forbes, Drumlithie; Mr. Dickenson, Stalybridge; Messrs. Keith and Co., Edinburgh; Mr. White, Reading; Mr. Priestley, Clapham Junction; Mr. Hurley, Euston-square; Mr. Shaw; Mr. Harland, Tunbridge Wells; Dr. Rayner, Hanwell; Mr. Morris, London; Messrs. Atkinson and Co., Kendal; Mr. Jeffrey, Epsom; Mr. Birch, Newbury; Lindsey, Notting-hill; H., Guildford; Zeta; H. S., Limehouse; Mercury; Medicus, Southsea; Medicus, Liverpool; Sigma, Edinburgh; H. G., Cheltenham; A. W. H., Barnsley; Medicus, Southport; B., Sheffield; Galen; Mrs. B., Leatherhead; M.B.; Drove; Medicus, York; Rex, Barnsbury; M. F.; J. P.; X., St. Helens; X. F.; A. B., Salisbury; W. S., London; Medicus, Leamington; Alpha, Lower Gornal; T.C.D.; W. W. P., Plymouth; D. T.; Sigma; Vendor; Truth, Camberwell; Locum Tenens; S., Gipsy-hill.

*Cambridge Observer*, *Carmarthen Weekly Reporter*, *New York Herald*, *Tyneside Echo*, *Musical Opinion*, *Bury Times*, *Bristol Mercury*, *&c.*, have been received.

# Medical Diary for the ensuing Week.

## Monday, July 21.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

## Tuesday, July 22.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 P.M., and Thursdays at 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

## Wednesday, July 23.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays, at 1.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1½ P.M.—Skin Department: 9.30 A.M., on Tuesdays and Fridays.

ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday, at the same hour.

GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

## Thursday, July 24.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

## Friday, July 25.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.

## Saturday, July 26.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.


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Tables of Contents, with the Index of Advertisements, for each Number can be had on applicatio to the Publisher.

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